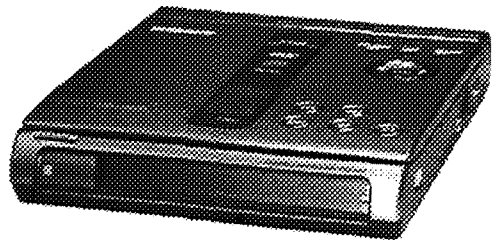
PBD-V30
RM-PBD1

SERVICEMANUAL

US Model
Canadian Model

Self Diagnosis Supported model



DVD Discman

DVD VIDEO

COMPACT disc DIGITAL AUDIO

COMPACT disc DIGITAL VIDEO

DOLBY DIGITAL

SPECIFICATIONS

System

System — Portable DVD Player
Laser — Semiconductor laser
Signal format system — NTSC color system, Macrovision

Disc

Compatible discs
. DVD VIDEO
- VIDEO CD
- AUDIO CD (CD-DA)
- CD-R

Disc diameter
12 cm (4 3/4 inch), 8 cm (3 inch)

Laser Diode Properties

DVD player
Material — AlGaInP
Wavelength — 650 nm
Emission Duration — Continuous
Laser Output — Less than 1000µW

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

CD player
Material — GaAIAs
Wavelength — 780 nm
Emission Duration — Continuous
Laser Output — Less than 44.6µW

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

Audio characteristics

Frequency response — DVD (PCM): 20 Hz to 44 kHz (+1.0 dB to –3.0dB)
CD: 20 Hz to 20 kHz (+1.0 dB to –2.0dB)
Signal-to-noise ratio (S/N) — More than 85 dB
High wave distortion rate — Less than 0.02%
Dynamic range — More than 88 dB
Wow and flutter — Less than detected value (±0.001% W PEAK)

outputs

Jack name	Jack type	Maximum output levels	Load impedance
AN OUT	Stereo mini jack	1 Vrms	Audio/Vrms 47kR Video/Vpp 75Ω terminated
PMC/ DOLBY DIGITAL	Optical output connector	-17 dBm	Wave length: 660 nm
S VIDEO OUT	4-pin mini DIN	Y:1.0 "p-p C:0.286 VP-P	75 Ω sync negative 7.5 Ω terminated
PHONES	Stereo minijack	12 mV + 12mV	16 Ω

General

Power requirements
- Power supply jack
  DC IN IOV jack accepts the AC-PB I AC power adapter (supplied), AC 120V, 60 Hz
- Battery pack (not supplied)

Power consumption
AC 120 V, 60 Hz, 0.30 A (max, AC power adapter)
DC 10 V l.l A (max, DVD VIDEO playback with the AC power adapter)
Dimensions (approx.) — 149.6 X 33.5 X 182.3 mm (6 X 1 3/8 X 7 1/4 inches) (w/h/d)
Mass (approx.) — 570 g (1lb 4 oz) (player only)
Operating temperature — 5 °C to 35 °C (–41°F to 95°F)
Operating humidity — 5% to 80%
Environment — Temperature -20°C to 55°C (–4°F to 13 l °F)
Humidity 15% to 90% Rh

Optical accessories

- Battery pack — NP-F750SP/F950
- AC battery changer — AC-V700
- DC battery changer — DC-V700
- Optical digital cable — POC-15B/15AB
- Headphones — MDR-605LB

Design and specifications are subject to change without notice.

PORTABLEDVDPLAYER

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered *connections.* Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
6. Check the B+ voltage to see it is at the values specified.
7. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check *leakage* as described below.

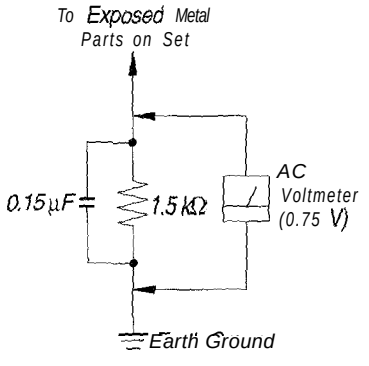


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. Acommercial leakage tester, such as the Simpson 229 or RCA TW-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital *multimeters* that have a 2V AC range are suitable. (See Fig. A)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

SERVICE NOTE 4

1. **GENERAL**

2. **DISASSEMBLY**

2-1. SUB BOARD 2-1
2-2. DVD MECHANISM (DVDM-D50), MAIN BOARD . · 2- 1
2-3. UPPER LID ASSEMBLY 2-2
2-4. OCONTROL FLEXIBLE BOARD 2-2

3. **BLOCK DIAGRAMS**

3-1. OVERALL BLOCK DIAGRAM 1
3-2. RF SERVO BLOCK DIAGRAM 2
3-3. SCSI INTERFACE BLOCK DIAGRAM 3
3-4. VIDEO/AUDIO BLOCK DIAGRAM 4
3-5. SYSTEM CONTROL BLOCK DIAGRAM 5
3-6. POWER BLOCK DIAGRAM 6

4. **PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS**

· MAIN PRINTED WIRING BOARD 4.2
• MAIN (RF) SCHEMATIC DIAGRAM 4-5
. MAIN (DECODER) SCHEMATIC DIAGRAM 4-8
. MAIN (CD DSP) SCHEMATIC DIAGRAM 4-11
. MAIN (SYSTEM CONTROL) SCHEMATIC DIAGRAM 4-15
• MAIN (DVD DSP) SCHEMATIC DIAGRAM 4-19
• MAIN (MOTOR DRIVER) SCHEMATIC DIAGRAM 4-21
• MAIN (AV CONTROL) SCHEMATIC DIAGRAM 4-23
. MAIN (CONNECTOR) SCHEMATIC DIAGRAM 4-27
• MAIN (POWER SUPPLY) SCHEMATIC DIAGRAM 4-29
· SUB PRINTED WIRING BOARD 4-31
• SUB (MPEG DECODER) SCHEMATIC DIAGRAM 4-33
• SUB (VIDEO D/A CONVERTER) SCHEMATIC DIAGRAM 4-37
• SUB (CONNECTOR) SCHEMATIC DIAGRAM 4-39
• REMOTE PRINTED WIRING BOARD 4-41
• REMOTE SCHEMATIC DIAGRAM 4-42

5. **IC PIN FUNCTION DESCRIPTION**

5-1. SYSTEM CONTROL MICON (MAIN BOARD IC801) 5-1
5-2. A/V CONTROL MICON (MAIN BOARD IC901) 5-2

6. **SELF DIAGNOSIS FUNCTION** 6-1

7. **ELECTRICAL ADJUSTMENT**

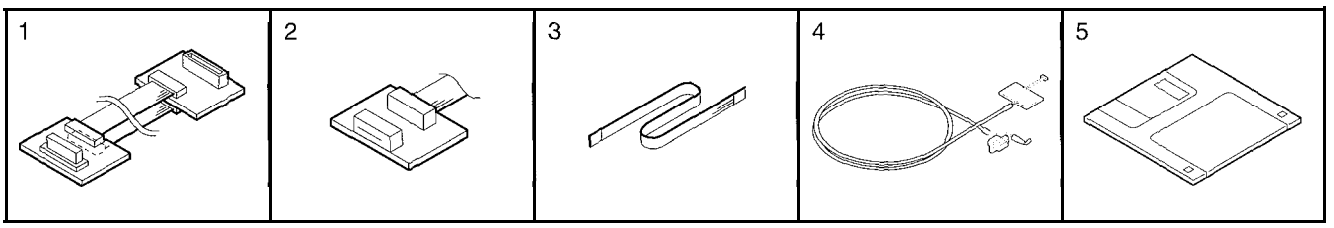
7-1. CHARGE VOLTAGE ADJUSTMENT 7-1
7-2. VIDEOADJUSTMENT 7-1

8. **REPAIR PARTS LIST**

8-1. EXPLODED VIEWS
8-1-1. LOWER CABINETSECTION 8-1
8-1-2. UPPER CABINET SECTION 8-2
8-1-3. DVD MECHANISM SECTION 8-3
8-2. ELECTRICAL PARTS LIST 8.4

Service Tool List

Ref.No.	Name	Part Code	Usage
1	Extension cable 1	J-2500-129-1	Extension cable between the MAIN board and the SUB board
2	Extension cable 2	J-2500-130- 1	Extension cable between the MAIN board and the MD sled motor
3	FFC Extension cable	J-2500-131-1	Extension cable between the MAIN board and the MD spindle motor
4	Serial Extension cable	J-2500-132-1	RS-232C cable between the MAIN board PC (with conversion board)
5	Rewriting froppy disc	J-2500-133-1	Rewriting software

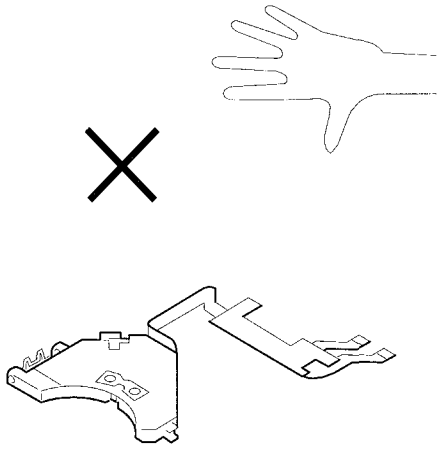


SERVICE NOTE

Do not unpack or install or repair the optical pickup unit KHS-190A series without the grounding processing as shown below.

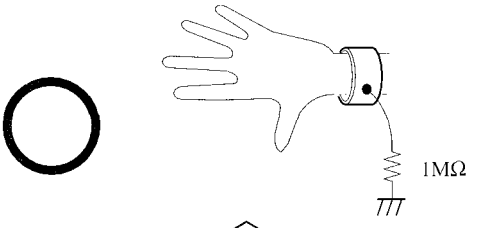
1. Grounding the human body
   Be sure to wear a grounding wrist strap (I 0 Ω or less) around your wrist to ground the static electricity accumulated in human body.
2. Grounding the work bend
   Place a conductive sheet (1 0 Ω or less) or a copper plate on the work bench on which the merchandise to bc repaired is placed. (The black sheet that is used for packaging the optical pickup unit, is a conductive sheet.) Connect the conductive sheet or the copper plate to an electrical ground.
3. Be careful that your clothes do not touch the optical pickup unit because the static electricity accumulated in your clothes are not grounded through the grounding wrist strap.
4. When the optical pickup unit is shipped from the factory, the laser diode pins are shorted to protect the laser diode from static electricity. To open the shorting, connect the laser diode to an appropriate APC (Automatic laser Power Control) circuit first, then remove the soldering quickly with a soldering iron having the insulation resistance of 1M or more.

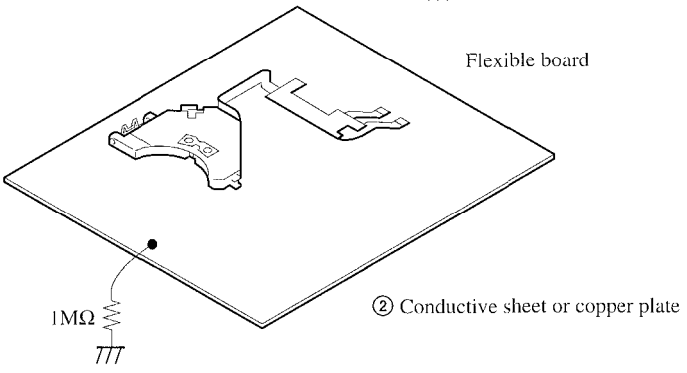
Optical pickup unit (KHS- 190A/J 1 N)



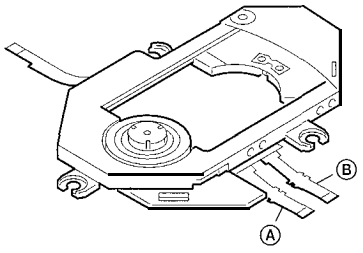
Optical pickup unit

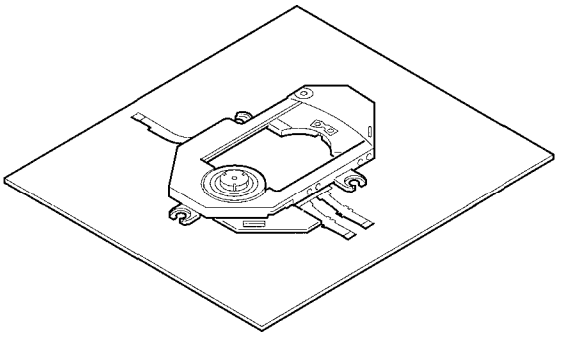
① Grounding wrist strap

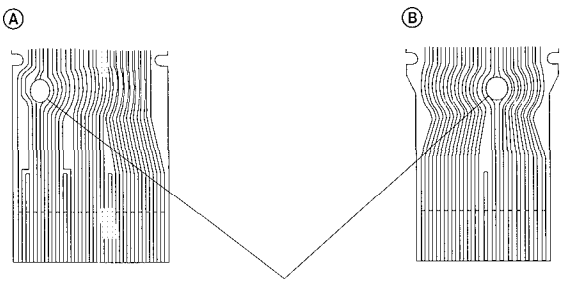




DVD mechanism (DVDM-D50)







[Caution]
After installing the optical pickup unit. remove soldering

98G1633-1
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Published by Technical Response Center

Table of contents

Self-diagnosis function 1-2
Index to parts and controls 1-2
This player can play the following discs 1-5
About this manual I-7

Getting started
Unpacking 1-7
Hooking up the system 1-8
Necessary setup before using the player 1-9

Basic operation
Playing a DVD VIDEO I-9
Playing a CD/VIDEO CD 1-13

Additional operations
Playing repeatedly (Repeat Play) 1.17
Playing in random order (Shuffle Play) 1-20
Creating your own program (Program Play) 1-20
Resuming playback from the point where you stopped a disc (Resume Play) 1-22
Changing the sounds 1-23
Using the sub-titles 1-23
Changing the angles 1-24
Preventing accidental pressing of the buttons 1-25
Using the rechargeable battery pack I-25
Using the audio amplifier 1-27

Setting and adjustment
Basic settings (INITIAL SETUP) 1-29
Limiting playback by children (Parental Control) 1-31

Additional information
Precautions 1-33
Notes on discs 1-34
Troubleshooting 1-34
Glossary 1-36
Language code list 1-37
INITIAL SETUP items list 1-38

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WARNING

To prevent fire or shock hazard, do not expose the player to rain or moisture.

CAUTION

The use of optical instruments with this product will increase eye hazard. As the laser beam used in this Portable DVD Player is harmful to eyes, do not attempt to disassemble the cabinet.

Refer servicing to qualified personnel only.

CAUTION-
Laser radiation when open.
DO NOT STARE INTO BEAM.

This label is located on the Laser protective housing inside the enclosure.

For customers in the U.S.A.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model and serial numbers are located at the bottom of the player. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. PBD-V30
Serial No. _____

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For customers in Canada

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT. FULLY INSERT.

ATENTION

POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU' AU FOND.

Welcome!

Thank you for purchasing the Sony Portable DVD Player. Before operating the player, please read this manual thoroughly and retain it for future reference.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Self-diagnosis function

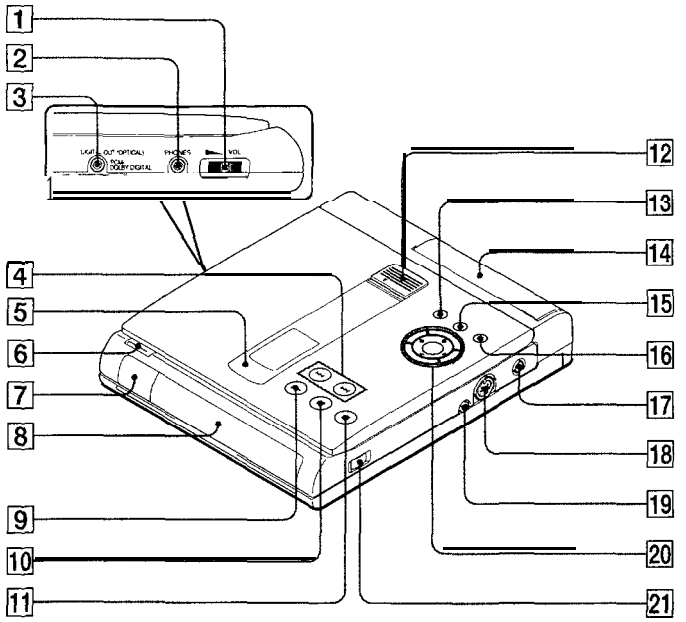
This function displays the player's condition with three or five digits (a combination of the alphabet and numbers) on the TV screen or in the front panel display If this occurs, check the following code chart

Code number	Means	Do
c01	The battery pack is fully consumed	Connect the AC power adapter to recharge
c05	The AC power adapter has a problem	Connect the supplied AC power adapter firmly If the code number is still displayed, see page 66
C13	. The disc is dirty • The player cannot play the disc	• Clean the disc with a soft cloth (page 63) . Make sure that the disc is compatible (page 4)
EXXXX (XXXX are optional numbers)	To prevent a malfunction, the self-decision function is working	Please contact your Sony dealer and present the five digits number displayed Example E0002

Index to parts and controls

Refer to the pages indicated in parentheses for details

Front and side panel



❑ **VOL (volume) dial (23)**
Adjusts the volume

❑ **PHONES jack (23)**
Used when connecting headphones

❑ **PCM/DOLBY DIGITAL connector (51, 52)**
Connects to am audio component using the optical digtal cable

❑ **⏮ /⏭ (previous/next) buttons (16, 24)**
Go back/forward to the previous/next chapter or track, or to search

❑ **POWER indicator (14, 22)**
Lights up in green when turning on the power

(continued)

❑ **OPEN button (14.22)**
Opens the disc cover The player does not work without connecting the AC power adapter or battery pack

7 **(remote sensor) (10)**
Accepts the remote control signals

❑ **Front panel display (21.29)**
Indicates the playmg hme, etc

❑ **D (play) button (15, 23)**
Plays back a disc

❑ **II (pause) button (16.24)**
Pauses playmg back a disc

❑ **❑ (stop) button (15, 23, 39)**
Stops playing back a disc

❑ **HOLD switch (45)**
Prevents accidental pressing of the buttons

❑ **DVD MENU button (19)**
Displays the DVD menu on the TV screen to set or adjust the menu items

14 **Battery pack connector (47)**
Connects the optional battery pack

❑ **TITLE button (18)**
Displays the htle menu on the TV screen

❑ **RETURN button (26.57)**
Returns to the preceding selection screen, etc

❑ **DC IN 10V Jack (12)**
Connects the AC power adapter (supplied)

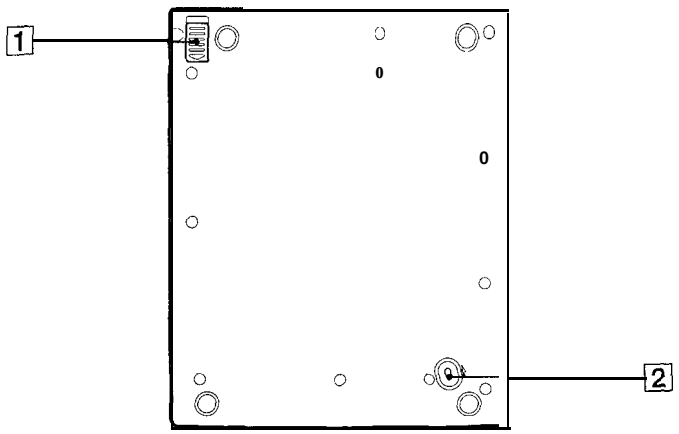
❑ **S VIDEO OUT connector (11)**
Connects to the S video mput connector on the TV

❑ **A/V OUT connector (11, 50)**
Connects to the audio/video input connectors on the TV or amplifier

❑ **←/↑/↓/→/ENTER buttons**
Select the items or settings

❑ **POWER button (14.22)**
Turns the power on and off the player

Rear Panel

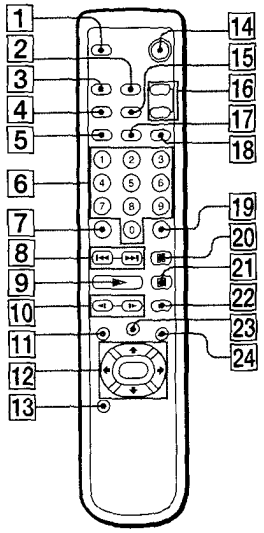


❑ **BATT RELEASE switch (49)**
Removes the battery pack

❑ **MANUAL LID RELEASE switch (69)**
Opens the disc cover forcibly when the AC power adapter and the battery pack are disconnected

(continued)

Remote



❑ **DISPLAY button (20, 28)**
Displays the current playmg status on the TV screen

2 **AUDIO button (41)**
Changes the sound while playmg a DVD VIDEO, VIDEO CD, or an audio CD

❑ **ANGLE button (44)**
Changes the angles when playmg a DVD VIDEO

❑ **REPEAT button (30.31.32)**
Repeats playback

❑ **A-B buttons (33)**
Repeat a specific portion

6 **Number buttons**
Select the items or settmgs

❑ **CLEAR button**
Cancels the selected item

❑ **⏮ PREV/⏭ NEXT buttons (16, 24)**
back/ forward to the previous/ next chapter or track, or to search

❑ **▷ PLAY button (15.23)**
Plays back a disc

❑ **◂‖ /‖▸ SLOW buttons (16.24)**
Play a disc in slow motion

❑ **DVD MENU button (19)**
Displays the DVD menu on the TV screen to set or adjust the menu items

❑ **←/↑/↓/→/ENTER buttons**
Select the items or sethngs

❑ **SETUP button (53.57)**
Sets the INITIAL SETUP

❑ **POWER button (14, 22)**
Turns the power on and off the player.

❑ **PROGRAM button (36)**
Plays a disc in Program Play

16 **SUB-TITLE, (SUB-TITLE) ON/OFF buttons (42)**
Turn the sub-titles on and off, and change the sub-title when playmg a DVD VIDEO

❑ **SHUFFLE button (35)**
Plays a disc in Shuffle Play

❑ **RESUME button (39)**
Plays a disc in Resume Play.

❑ **ENTER button (16, 24, 36, 57)**
Executes the items or settings.

❑ **‖ PAUSE button (16, 24)**
Pauses playmg back a disc

❑ **□ STOP button (15, 23, 39)**
Stops playmg back a disc

❑ **SEARCH MODE *button (16.24)***
Sets the player in search mode (track, index, etc)

❑ **TITLE button (18)**
Displays the title menu on the TV screen

❑ **↶ RETURN button (26, 57)**
Returns to the preceding selection screen, etc

This player can play the following discs

DVD VIDEOs	
VIDEO CDs	
AUDIO CDs (CD-DA)	

About playing a CD-R
You can play a CD-R recorded with a VIDEO CD or an AUDIO CD However, depending on the CD-R, playback may not be possible

You cannot play the discs below

- DVD-ROMs
- CD-ROMs
- PHOTO CDs
- CD EXTRAs (data sections)

Note
This player conforms to the NTSC color system You cannot play discs recorded mother color systems such as PAL or SECAM

Notes on DVD VIDEO discs

Region code of DVD VIDEOs you can play
Region code indications such as are labelled on some DVD VIDEOs to indicate which type of player can play the discs
Unless "1" is included in the indications or is labelled on the DVD VIDEOs, you cannot play the discs on this player If you try to play these DVD VIDEOs, the message "PLAYING THIS DISC PROHIBITED BY AREA LIMITS" will appear on the TV screen
Depending on the DVD VIDEO, no region code indications may be provided, even though playing the DVD VIDEO is prohibited by the area limits

Note on playback operations of DVD VIDEOs and VIDEO CDs
Some playback operations of DVD VIDEOs and VIDEO CDs may be intentionally fixed by software producers Since this player plays DVD VIDEOs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available Also refer to the instructions supplied with the DVD VIDEOs or VIDEO CDs

Logo marks of DVD VIDEOs
Logo marks on DVD VIDEO discs or cases are shown as below These marks show available contents or functions,
some DVD VIDEOs do not have these marks eve" though you may be able to use these functions
For more details of the marks, refer to the instruction of the DVD VIDEO disc

logo	Meaning
	The number of audio tracks
	The number of sub-htles
	The number of angles
	'l-he picture aspect raho
	Region code

Some of the DVD software include special encoding to trigger copy protection signals from the NTSC output of this player If you find noise on playback picture of a certain DVD software, there is a possibility that it is caused by the incompatibility between your display and the copy protechon signals triggered bv such encoding in the DVD software

This product incorporates copyright protecho" technology that is protected by method claims of certain U S patents and other intellectual property rights owned by Macrovision Corporation and other rights owners Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation Reverse engineering of disassembly is prohibited

Notes on VIDEO CDs with PBC (Playback Control) functions

This player conforms to Ver. 1.1 and Ver. 2.0 of VIDEO CD standards. You can enjoy two kinds of playback according to the disc type.

Disc type	You can
VIDEO CDs without PBC functions (Ver. 1.1 discs)	Enjoy video playback (moving pictures) as well as music.
VIDEO CDs with PBC functions (Ver. 2.0 discs)	Play interactive software using menu screens displayed on the TV screen (PBC Playback), in addition to the video playback functions of Ver 1.1 discs. Moreover, you can play high-resolution still pictures, if they are included on the disc.

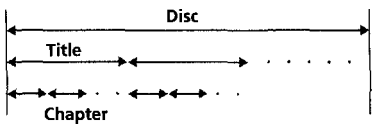
1-6

Terms for discs

- **Title**
  The longest sections of a picture or a music piece on a DVD VIDEO; a movie, etc. for a picture piece on a video software or an album, etc. for a music piece on an audio software. Each title is assigned a title number enabling you to locate the title you want.

- **Chapter**
  Sections of a picture or a music piece that are smaller than titles. A title is composed of several chapters. Each chapter is assigned a chapter number enabling you to locate the chapter you want. Depending on the disc, no chapters may be recorded.

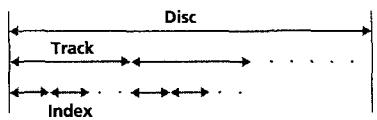
DVD VIDEO structure



- **Track**
  Sections of a picture or a music piece on a VIDEO CD or a CD. Each track is assigned a track number enabling you to locate the track you want.

- **Index**
  A number that divides a track into some sections to easily locate the point you want on a VIDEO CD or a CD. Depending on the disc, no index may be recorded.

VIDEO CD or CD structure



- **Scene**
  On a VIDEO CD with PBC functions, the menu screens, moving pictures, and still pictures are divided into sections called "scenes." Each scene is assigned a scene number enabling you to locate the scene you want.

About this manual

- Complete the set up using "Getting Started" (pages 10 to 13).
- For basic operations, see "Playing a DVD VIDEO" (pages 14 to 21) and "Playing a CD/VIDEO CD" (pages 22 to 29).
- For additional features, see pages 30 to 52.
- The icons shown below are used in this manual:

Icon	Meaning
	Indicates that you can use only the remote to do the task.
DVD	Indicates the functions for DVD VIDEOs.
VIDEO CD	Indicates the functions for VIDEO CDs.
CD	Indicates the functions for AUDIO CDs.

1-7

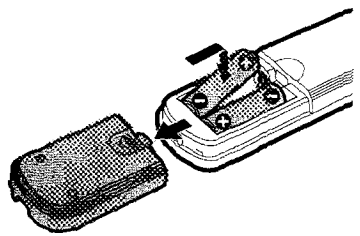
Unpacking

Check to make sure you have received the following items.

- Audio/video cable (stereo mini plug x 1 ↔ phono plug x 3) (1)
- AC-PBD1 AC power adapter (1)
- RM-PBD1 remote commander (remote) (1)

Inserting batteries into the remote

You can control the player using the supplied remote. Insert two R6 (size AA) batteries (not supplied) by matching the + and - ends on the batteries to those inside the battery compartment.



When to replace batteries

With normal use, the batteries should last for about six months. When the remote no longer operates the player, replace all the batteries with new ones.

Notes

- If you do not use batteries correctly, it may cause damage from leakage and corrosion. Please follow the directions below:
  - Make sure the polarity is correct.
  - Do not use a new battery with an old one or mix different types of batteries.
  - Do not charge a dry cell battery.
  - If you will not use the remote for an extended period of time, remove the batteries.

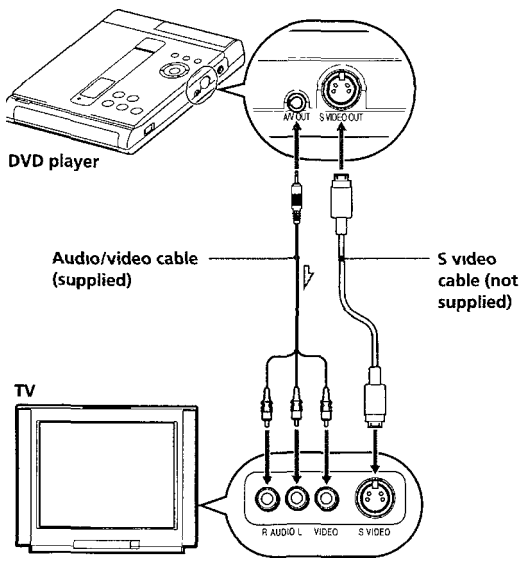
  If you have battery leakage, replace with new batteries after cleaning the battery case.
- Do not expose the remote sensor to direct sunlight or other lighting apparatuses. Doing so may cause a malfunction.

Hooking up the system

This sechon describes **how** to hook up the player to a TV (with audio/video input connectors) and/or an amplifier You cannot connect this player to a TV without a video input connector **Be sure to turn off the power of each component before making the connections.**

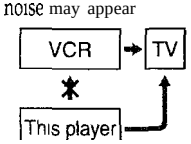
1 Hookups

When connechng the cord, be sure to match the color-coded cord to the appropnate connectors on the components Yellow (video) to Yellow, Red (right) to Red, and White (left) to White Be sure to make connections firmly to avoid hum and noise



Note

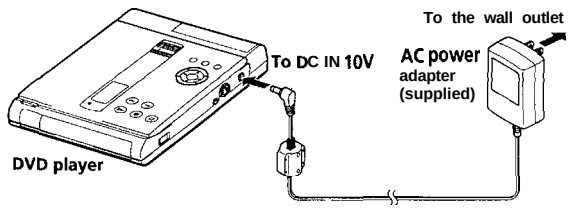
Do not connect this player to a VCR If you view the pictures on your TV after making connections shown below, picture noise may appear



If your TV has an S video input connector

Connect the component via the S VIDEO OUT connector using the S video cable (not supplied) instead of the video connechng cord You will get a better picture

❑ Connecting the AC power adapter



You can attach the optional battery pack. See "Using the rechargeable battery pack" (page 46)

I Connect the supplied AC power adapter to this player and the wall outlet

2 Press POWER

The POWER indicator lights up green

Necessary setup before using the player

some initial setups are necessary for the player depending on the TV or other components to be connected

For details on using the menu, see page 53

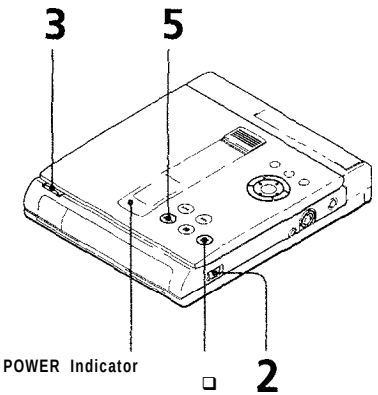
For details on each menu item, see pages 54 to 56

- **To connect the player to a normal TV**
  Set "TV TYPE" in "INITIAL SETUP" to "4 3 (PANSCAN)" or "4 3 (LETTERBOX)."
- **To connect the player to a wide-screen TV**
  Set "TV TYPE" in "INITIAL SETUP" to "16 9."
- **To connect the player to a digital component with a built-in Dolby Digital decoder**
  Set "DIGITAL OUT" in "INITIAL SETUP" to "DOLBY DIGITAL."
- **To listen to the sound through speakers connected to an amplifier with a digital connector, or to output the sound to a digital component such as a DAT or MD deck**
  Set "DIGITAL OUT" in "INITIAL SETUP" to "D-KM."

"INITIAL SETUP" also includes other items such as "DVD MENU," "PARENTAL CONTROL," etc For details, see page 53

For basic operations such as using the player, see "Playing a DVD VIDEO" (page 14) and "Playmg a CD/VIDEO CD" (page 22) For additional features, see from page 30

Playing a DVD VIDEO



When using the battery pack
Normally you cannot use the remote to turn on the player However, within 5 minutes after having used the battery pack, you can use the remote to turn on the player

1 Make the appropriate settings on your TV
Turn on the TV and select the video input so that you can view the pictures from this player

When using an amplifier
Turn on the amplifier and select the appropnate position so that you can listen to the sound from this player

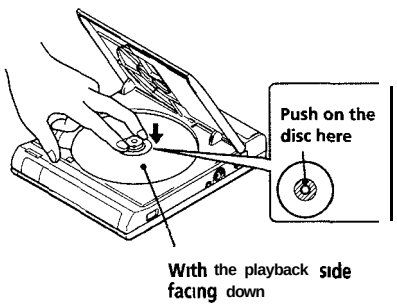
2 press POWER to turn on the player

The POWER indicator lights up green and the front panel display lights up When using the battery pack, the front panel display doesn't light up

3 Press OPEN to open the disc cover

4 Insert a DVD VIDEO disc

Push gently around the center of the disc until it clicks into place, being careful not to touch the lens



5 Close the disc cover, then press ▷

The player starts playback (Continuous Play). Adjust the volume on the TV or the amplifier.

After doing Step 5

A DVD menu or title menu may appear on the TV screen (see page 18 or 19)

To stop playback

Press □.

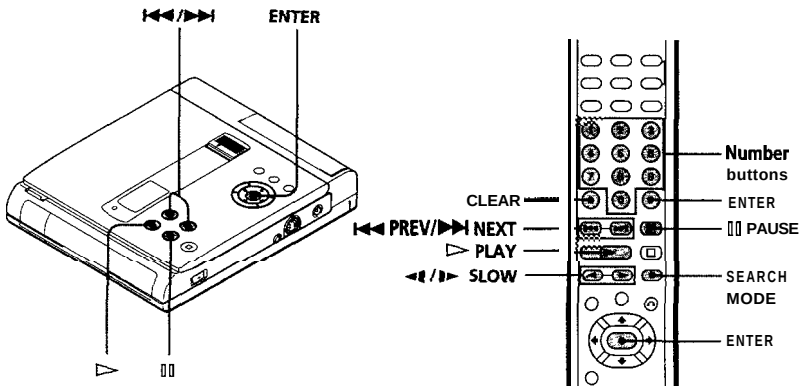
Note

The Power is automatically turned off whenever,

- a disc is not being played
- you do not operate the player or the remote for more than 30 minutes when using the AC power adapter (10 minutes when using the optional battery pack)

Refer to the instructions supplied with your disc

Various modes of playback



What are title and chapter?

See page 7

Each time you press SEARCH MODE

"TITLE SEARCH" and "CHAPTER SEARCH" appear on the TV screen

Note

Depending on the DVD VIDEO, you may not be able to do some of the operations described on the right

To	Press
Pause	▯▯
Resume playback after pause	▯▯ or ▷
Play in slow motion	◄▮ SLOW or ▮► SLOW To return to Continuous Play mode, press D
Go/back to the next/ preceding chapter in Continuous Play mode	I◄◄ / ►►I
select the chapter	1 SEARCH MODE repeatedly until "CHAPTER SEARCH" appears on the TV screen 2 The number buttons to select the chapter number, then ENTER
Select the title	1 SEARCH MODE repeatedly until "TITLE SEARCH" appears on the TV screen 2 The number buttons to select the title number, then ENTER

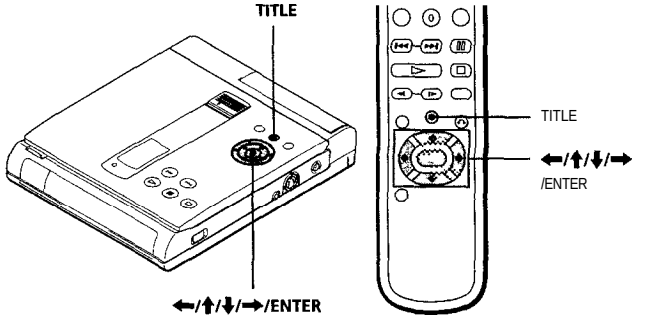
To	Press
Quickly locate a point while monitoring the picture (Search)	⏮ / ⏭ and hold down until you find the point (There is no sound during Search mode)

If you enter the wrong number

Press CLEAR, then the correct number button

Using the title menu

On a DVD VIDEO, long sections of movies or music pieces are divided mto smaller segments Each of these segments is called "title " When You play a DVD VIDEO which contains several titles, you can select the title you want using the title menu.



Notes

- Depending on the DVD VIDEO, you may not be able to select the title
- Depending on the DVD VIDEO, the instructions supplied with the disc may refer to "title menu" as simply "menu" or "title " Linkwise, "Press ENTER "in Step 3 may be expressed as "Press SELECT "

1 Press TITLE

The title menu appears on the TV screen The contents of the menu vary from disc to disc

2 Press C/t / ↓ / ➡ to select the title you want to play

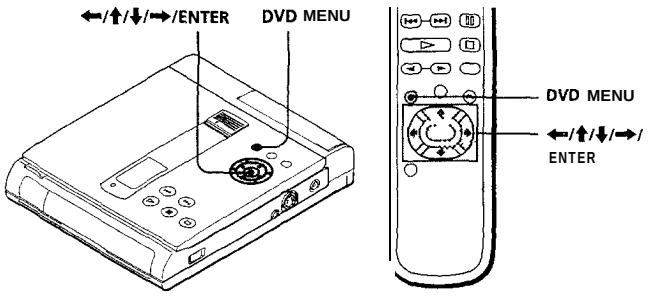
(Dependmg on the DVD VIDEO, you may be able to use the number buttons to select the title)

3 Press ENTER

The player starts playmg the selected title

Using the DVD menu

Some DVD VIDEOs allow you to select the disc contents using the menu When you play these DVD VIDEOs, you can select the item, the language for the sub-htles, the language for the sound, etc, using the DVD menu



If you want to select the language for the DVD menu

Change the setting using "INITIAL SETUP" (see page 53)

Notes

- Depending on the DVD VIDEO, the instructions supplied with the disc may refer to "DVD menu" as simply "menu" Likewise, "Press ENTER," in Step 3 may be expressed as "Press SELECT "
- Depending on the DVD VIDEO, the DVD menu may not appear on the TV screen

1 Press DVD MENU

The DVD menu appears on the TV screen The contents of the menu vary from disc to disc

2 Press ←/↑/↓/→ to select the item you want to change

(Dependmg on the DVD VIDEO, you may be able to use the number buttons to select the item)

3 Press ENTER

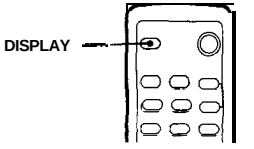
What is angle',
See page 44

What is language for the sound and sub-titles?
See pages 54 and 55

Note
Depending on the DVD VIDEO, some information may not appear on the TV screen

Using the on-screen display

You can check the operating status of the player and information about the disc using the on-screen display on the TV screen

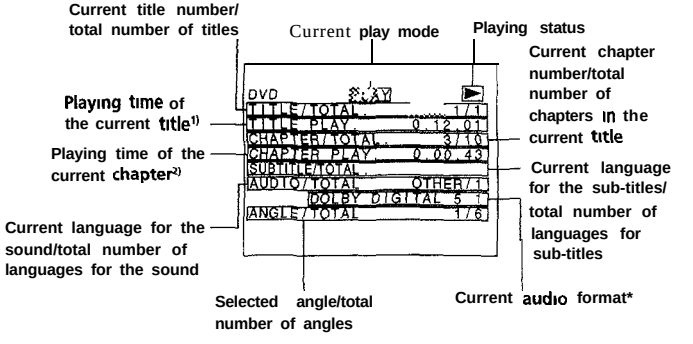


Press DISPLAY

Each hme you press the button, the on-screen display changes as follows

On-screen display 1
↓
On-screen display 2
↓
On-screen display off

■ **Display information of the on-screen display 1 (2) mode**


Current title number/ total number of titles
Current play mode
Playing status
Current chapter number/total number of chapters in the current title
Playing time of the current title1)
Playing time of the current chapter2)
Current language for the sub-titles/ total number of languages for sub-titles
Current language for the sound/total number of languages for the sound
Selected angle/total number of angles
Current audio format*
DVD
TITLE/TOTAL 1/1
TITLE PLAY 0:12:01
CHAPTER/TOTAL 3/10
CHAPTER PLAY 0:00:43
SUBTITLE/TOTAL
AUDIO/TOTAL OTHER/1
DOLBY DIGITAL 5.1
ANGLE/TOTAL 1/6

* "KM," "MPEG," or "DOLBY DIGITAL" is displayed In "DOLBY DIGITAL" case, the channel in the playing track is displayed

1) The contents of the display change according to the on-screen display setting

-When "On-screen display 1" is selected, the playing time of the current title is displayed

- When "On-screen display 2" is selected, the remaining time of the current title is displayed

2) The contents of the display change according to the on-screen display setting

When "On-screen display 1" is selected, the playing time of the current chapter is displayed

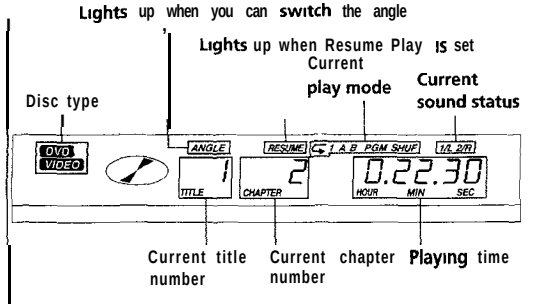
When "On-screen display 2" is selected, the remaining time of the current chapter is displayed

■ Display Information of the on-screen display off mode

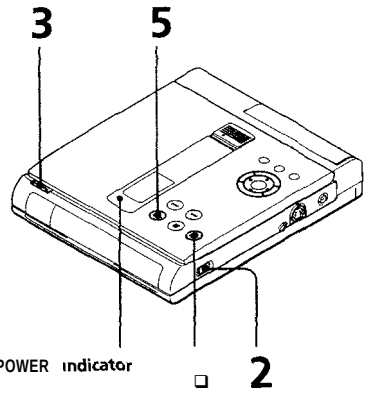
No information concerning on-screen display is displayed (Other messages, etc, will be displayed)

Using the front panel display

■ Display information while playing a disc



Playing a CD/VIDEO CD



When using the battery pack

Normally you cannot use the remote to turn on the player However, within 5 minutes after having used the battery pack, you can use the remote to turn on the player

1 Make the appropriate settings on your TV

Turn on the TV and select the video input so that you can view the pictures from this player

When using an amplifier

Turn on the amplifier and select the appropriate position so that you can listen to the sound from this player.

2 Press POWER to turn on the player

The POWER indicator lights up green and the front panel display lights up

When using the battery pack, the front panel display doesn't light up

3 Press OPEN to open the disc cover

After domg Step 5
The menu screen may appear on the TV screen depending on the VIDEO CD You can play the disc interactively following the instructions on the menu screen (PBC Playback, **see page 26)**

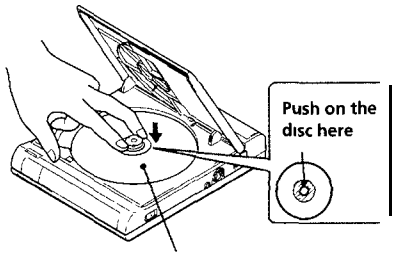
Note
The power IS automatically turned off whenever,
- a disc is not bang played
- you do not operate the player or the remote for more than 30 minutes when using the AC power adapter (10 minutes when using the optional battery pack)

Refer to the instructions supplied with your disc

When starting playback
Adjust the sound volume to MIN (lowest level), then turn up the volume little by little

4 Insert the disc

Push gently around the center of the disc until it clicks into place, being careful not to touch the lens



With the label side facing up

5 Close the disc cover, then press D

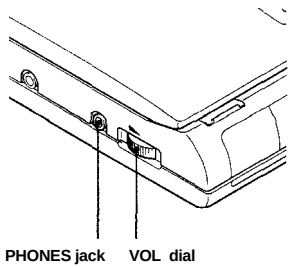
The player starts playback (Contmuous Play)
Adjust the volume on the TV or the amplifier

To stop playback

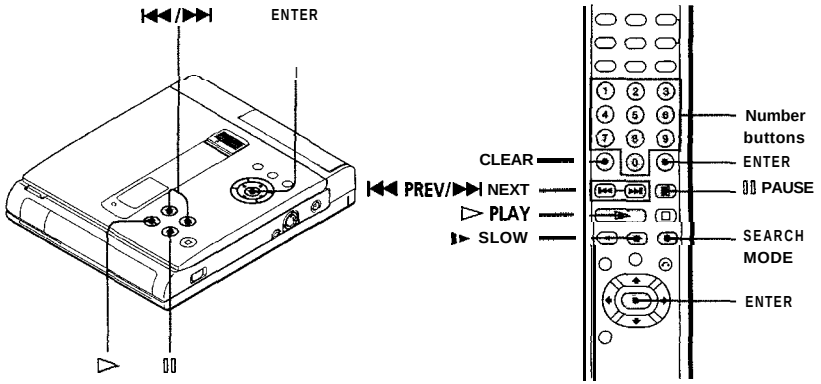
Press □

Listening through the headphones

You can enjoy the audio sound through headphones (not supplied) after connecting to the PHONES jack Adjusting the sound volume, turn VOL



Various modes of playback



What are track, **index, and scene?**
See page 7

Each time you press SEARCH MODE
"TRACK SEARCH," "SCENE SEARCH ," and "VIDEO INDEX SEARCH" appear on the TV screen

Notes
. Depending on the VIDEO CD, you may not be able to do some of the operations described on the right
• Depending on the VIDEO CD, the scene you selected may not start

TO	Press
Pause	▯▯
Resume playback after pause	▯▯ or D
Play in slow motion" (VIDEO CD only)	▮► SLOW (forward way only) To return to Continuous Play mode, press D
Go/back to the next/ preceding track in Continuous Play mode	I◄◄/►►I
Select the track	The number buttons to select the track number, then ENTER
Select the scene before you start playing a VIDEO CD with PBC functions and during PBC playback (Scene Search)	1 SEARCH MODE repeatedly until "SCENE SEARCH" appears on the TV screen 2 The number buttons to select the scene number, then ENTER
Quickly locate a point while monitoring the picture (Search)	I◄◄/►►I and hold down until you find the point. (There is no sound during Search mode)

1) You may not be able to play in slow motion with the PBC function

if you enter the wrong number

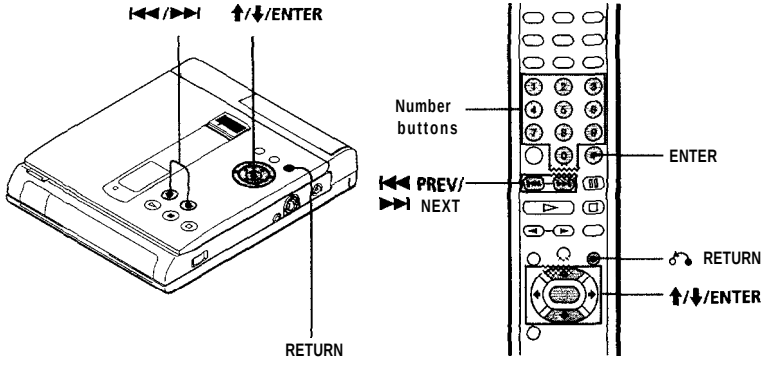
Press CLEAR, then the correct number button

Playing VIDEO CDs with PBC functions (PBC Playback — VIDEO CD only)

When playmg VIDEO CDs with PBC functions (Ver 2 0 discs), you can enjoy simple interactive operations, operations with search functions, etc

PBC Playback allows you to play VIDEO CDs interactively, followmg the menu displayed on the TV screen.

On this player, use the number buttons, ENTER, ⏮, ⏭, ↩ RETURN, and ↑/↓ buttons to enjoy PBC Playback



When playing VIDEO CDs with PBC functions

PBC Playback starts automatically

Note

Depending on the VIDEO CD, "Press ENTER" in Step 3 may be expressed as "Press SELECT" in the instructions supplied with the disc

1 Start playing a VIDEO CD with PBC functions, followmg Steps 1 to 5 in "Playing a CD/VIDEO CD" on page 22.

2 Select the item number you want on the menu screen.

Press ↑ / ↓ to select the item number or the number buttons of the item you want

3 Press ENTER

4 Follow the instructions on the menu screen for interactive operations

To cancel PBC Playback of a VIDEO CD with PBC functions (and play the disc in Continuous Play mode)

There are two ways.

- Before you start playing, select the track you want using ⏮ or ⏭, then press ENTER or D.
- Before you start playing, select the track number using the number buttons on the remote, **then press** ENTER or ▷.

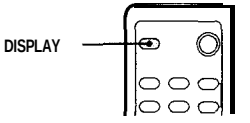
"PLAY WITHOUT PBC" appears on the TV screen and the player starts Continuous Play. You cannot display still pictures such as a menu screen.

Follow the operation below to enjoy PBC Playback. Refer to the instructions supplied with the disc, as the operating procedure may differ according to the VIDEO CD.

To	Press
Select the item	↑ / ↓ to select the item number, then press ENTER.
	The number button of the item you want, then press ENTER.
Go back to the men" screen	↩ RETURN, ⏮, or ⏭

Using the on-screen display

You can check the operating status of the player and the information about the disc using the on-screen display on the TV screen.



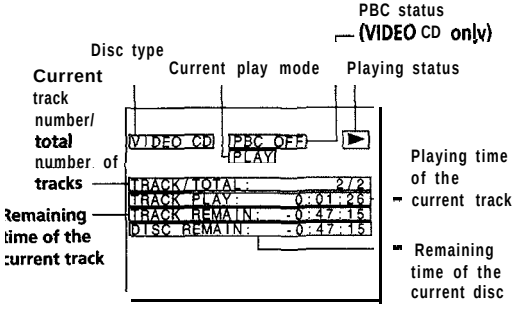
Press DISPLAY

Each time you press the button, the on-screen display changes as follows:

On-screen display on ⟷ On-screen display off

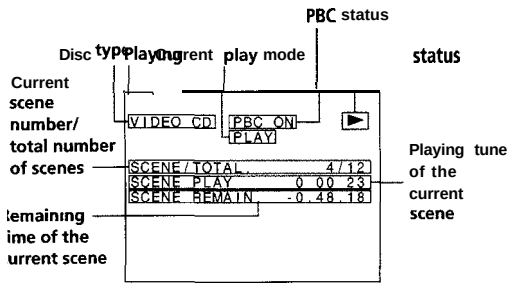
■ **Display information of the on-screen display on mode**

- During Continuous Play mode



During Shuffle Play or Program **Play, the** remaining time of the disc is not displayed.

• During I'BC Playback (VIDEO CD only)



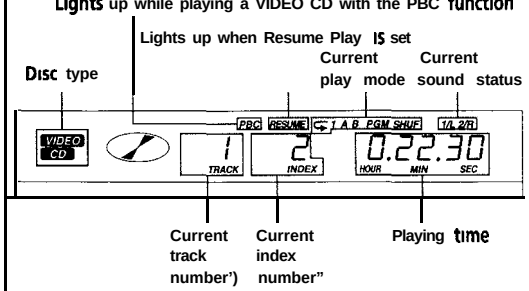
■ **Display information of the on-screen display off mode**

No information concerning on-screen display is displayed (Other messages, etc, will be displayed)

Using the front panel display

■ **Display information while playing a disc**

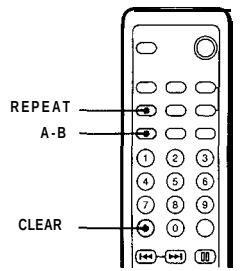
Lights up while playing a VIDEO CD with the PBC function



1) When you play a VIDEO CD with the PBC funchon, the current scene number is displayed instead of the current track and index numbers

Playing repeatedly (Repeat Play) ❑

You can play all the tracks on a disc, a single title/ chapter/track, or a specific portion repeatedly To set Repeat Play, use the REPEAT or A-B button



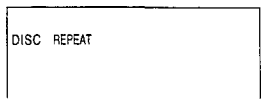
Repeating all the tracks on a disc

VIDEO CD CD

In Shuffle or Program Play mode, the player repeats the tracks in the shuffled or programmed order

Press REPEAT repeatedly until "DISC REPEAT" appears on the TV screen

"↻" appears in the front panel display The player repeats the tracks as follows



Notes

- The player reverts to Continuous Play the next time playback starts whenever you,
  - open the disc cover
  - turn the power off
  - stop playback in resume off
- You cannot repeat all the tracks in Continuous Play mode on a VIDEO CD with the PBC function

Note

The player reverts to Continuous Play the next time playback starts whenever you,

- open the disc cover
- turn the power off
- stop playback in resume off

When the disc is played in	The player repeats
Continuous Play (page 22)	All the tracks in the recorded order
Shuffle Play (page 35)	All the tracks in random order every hme repeat
Program Play (page 36)	Programmed tracks

To cancel Repeat Play

Press REPEAT

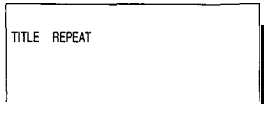
Repeating the current title or chapter DVD

In Contmuous Play mode (page 14), you can repeat only the current title or chapter (You may not be able to do Repeat Play depending on the disc)

■ **To repeat the current title**

While the title you want is being played, press REPEAT repeatedly unhl "TITLE REPEAT" appears on the TV screen

"↻ 1" appears in the front panel display The player repeats the current title



■ **TO repeat the current chapter**

While the chapter you want is being played, press REPEAT repeatedly until "CHAPTER REPEAT" appears on the TV screen

"↻ 1" appears in the front panel display The player repeats the current chapter

To cancel repeating the current title or chapter

Press REPEAT repeatedly until "PLAY" appears on the TV screen

Notes

- The player reverts to Continuous Play the next time playback starts whenever you.
  - open the disc cover
  - turn the power off
  - stop playback in resume off
- ▫□◆ ▫▫■■□◆ ▫▫□▫▫▫◆ □■●▫ the current track in Continuous Play mode on a VIDEO CD with the PBC function

Repeating the current track VIDEO CD CD

In Contmuous Play mode (page 22), you can repeat only the current track

While the track you want is being played, press REPEAT repeatedly until "TRACK REPEAT" appears on the TV screen

"↻ 1" appears in the front panel display The player repeats the current track

To cancel repeating the current track

Press REPEAT repeatedly unhl "PLAY" appears on the TV screen

Notes

- The player reverts to Continuous Play the next tune playback starts whenever you,
  open the disc cover
  - turn the power off
  - stop playback in resume off
- When you set the A↔B Repeat, the settings for the other Repeat Play, Shuffle Play, and Program Play are cancelled
- ▪▫▫▫▪ ▪▫▫▪▪▫▪ in ▪▫▫▪ DVD VIDEO and VIDEO CD do not allow you to do **A-B** Repeat playback

Repeating a specific portion (A↔B Repeat) DVD VIDEO CD

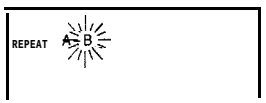
You can play a specific portion of a title/chapter/track repeatedly This is useful, for example when you want to memorize lyrics

During PBC Playback of VIDEO CDs (page 26), this function is available only while playing moving pictures (You can repeat only a specific portion of moving pictures)

You may not be able to do A-B Repeat depending on the DVD VIDEO

1 When you find the starting point, press A-B

The TV screen: "REPEAT A-" appears, then "B" flashes
The front panel display: "↻ A-" appears, then "B" flashes



2 When you reach the ending point (pomt B), press A-B again

Repeat Play starts thus specific porhon

The TV screen: "REPEAT A-B" appears
The front panel display: "↻ A-B" appears

To cancel A↔B Repeat

Press A-B repeatedly unhl "PLAY" appears on the TV screen

To cancel the setting midway

Press CLEAR

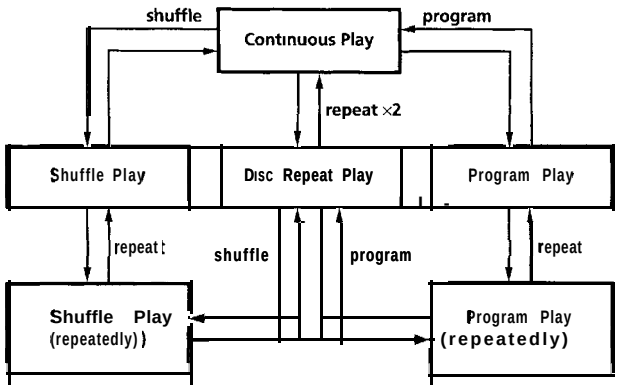
Note

You cannot use Track Repeat with A-B Repeat

Using Repeat Play with other play modes VIDEO CD

You can use Repeat Play with Program Play (page 36) or Shuffle Play (page 35) For example, **when you use** Repeat Play with Shuffle Play, Shuffle Play plays repeatedly When you use Repeat Play with Program Play, you can play the programed tracks you want repeatedly

See the table below for available play modes

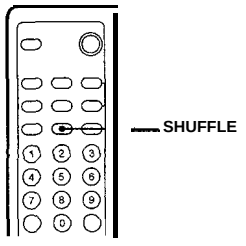


Playing in random order (Shuffle Play) ❑ VIDEO CD CD

Notes

- The player reverts to Continuous Play the next time playback starts whenever you;
  -open the disc cover.
  turn the power off.
  -stop playback in resume off.
- You may not be able to do Shuffle Play during PBC Playback.

You can have the player "shuffle" tracks and play them in a random order. To set Shuffle Play, use the SHUFFLE button.



Press SHUFFLE

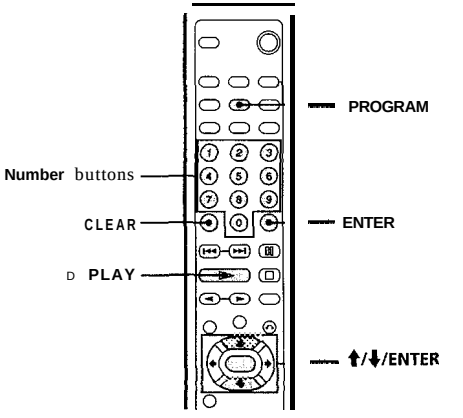
"SHUF" appears in the front panel display. You can play the current disc in a random order.

To cancel Shuffle Play

Press SHUFFLE repeatedly until "PLAY" appears on the TV screen.

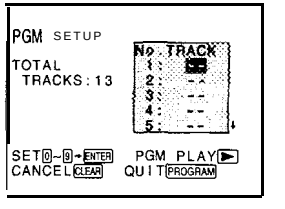
Creating your own program (Program Play) ❑ VIDEO CD CD

You can arrange the order of the tracks on the disc and create your own program. The program can contain up to 20 tracks.



1 Press PROGRAM.

"PGM SETUP" appears on the TV screen



The program remains even after the Program Play ends

When you press ▷ PLAY, you can play the same program again.

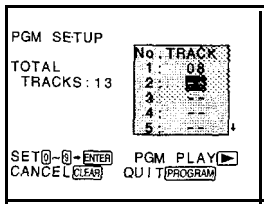
You can do Repeat Play of the programmed tracks

After programming, press REPEAT to change to "PROGRAM REPEAT" on the TV screen.

Notes

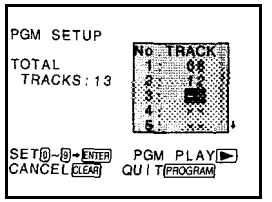
- The number of tracks displayed is that of the tracks recorded on a disc.
- The program is cancelled and Continuous Play starts the next time playback starts when you;
  - open the disc cover.
  - turn the power off.
  - stop playback in resume off.
- You may not be able to do Program Play during PBC Playback.

2 Select the track you want to program using the number buttons, then press ENTER.



3 To program other tracks, repeat Step 2.

The programmed tracks are displayed from 2 in order.



4 Press ▷ PLAY.

The programmed tracks start in order.

To cancel Program Play

Press PROGRAM repeatedly until "PLAY" appears on the TV screen.

To cancel programming midway

Press PROGRAM.

To change programming

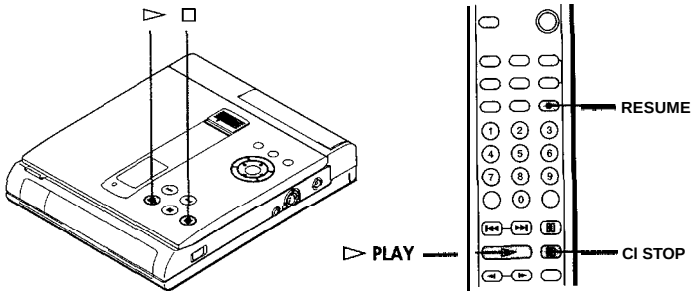
In Step 3, select the program number of the track you want to change using the ↑/↓ buttons, then press CLEAR. Follow Step 2 for new programming.

To cancel the programmed order

To cancel a programmed track, select the track you want to clear using the ↑/↓ buttons in Step 3, then press CLEAR twice.

Resuming playback from the point where you stopped a disc (Resume Play) DVD VIDEO CD CD

The player can store the point where you stop playback and the current play mode. During playback or stop playback, you can set Resume Play to ON/OFF using the RESUME button When you play a VIDEO CD or CD, as long as you do not open the disc cover, the player stores the point where you stop playback even if you turn the power off.



1 During playback or stop playback, press RESUME to display "RESUME ON" on the TV screen

"RESUME" appears in the front panel display.

2 While playing a disc, press □ to stop playback

"WHEN PLAYING NEXT TIME, DISC RESTARTS FROM POINT YOU STOPPED " appears on the TV screen

If Resume Play is set to OFF.
Resume Play is not available

3 **Press D.**

The player starts playback **from** the point you stopped the disc in Step 2

To play from the beginning of the disc
When "RESUME" appears in the front panel display during stop playback, press RESUME to turn off "RESUME," then press ▷

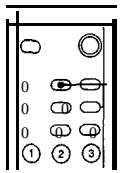
Notes

- You may not do Resume Play depending on the DVD VIDEO
- Depending on **where** you stopped the disc, the player may resume playback from a different point
- The point where you stopped playback is cleared when you,
  - open or close the disc cover
  - disconnect the AC power adapter and the battery pack
  - start playback after selecting a htle, chapter, or track
  - change the setting of "INITIAL SETUP "

Changing the sounds

DVD VIDEO CD CD

With DVD VIDEOs on which multilingual sounds are recorded, you can select the language you want while playing the DVD VIDEO With multiplex VIDEO CDs, you can select the sound from the right or left channel and listen to the sound of the selected channel through both the right and left speakers In this case, the sound loses the stereo effect

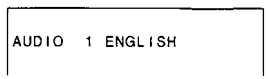


Press AUDIO while playing a disc

Each time you press the button, the indication and the language/sound from the speakers change as follows:

■When playing a DVD VIDEO

AUDIO 1 → AUDIO 2 →



■ When playing a VIDEO CD or CD

Indicator in the front panel display	You will hear
1/L	The sound of the left channel
2/R	The sound of the right channel
1/L 2/R	The standard stereo sound

Notes

. Depending on the DVD VIDEO, you may not be able to change the languages even if multilingual sounds are recorded on the DVD VIDEO

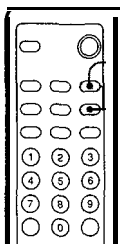
• Since the setting is not stored in memory, after turning the player off or opening the disc cover, the next time an audio CD or VIDEO CD is played, the sound reverts to stereo

. Likewise, after changing the htle or opening the disc cover, the next time a DVD VIDEO is played, the sound may be changed

Using the sub-titles

DVD

With DVD VIDEOs on which sub-htles are recorded, you can turn the sub-htles on and off and change the language of the sub-htles whenever you want while playmg the DVD VIDEO



Turning the sub-titles on and off

Press (SUB-TITLE) ON/OFF while playmg a DVD VIDEO

Sub-titles appear on the TV screen.

To turn off the sub-titles

Press (SUB-TITLE) ON /OFF again

Notes

• When playmg the DVD VIDEO on which no sub-htles are recorded, no sub-htles appear even if you press (SUB-TITLE) ON/OFF

. Dependmg on the DVD VIDEO, you may not be able to turn the sub-htles on even if they are recorded on the DVD VIDEO

. Dependmg on the DVD VIDEO, you may not be able to turn the sub-htles off

Notes

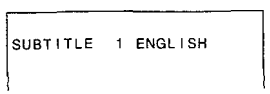
- The sorts and number of languages for sub-titles vary from disc to disc
- . Dependmg on the DVD VIDEO. you may not be able to change the sub-titles even If multilingual subhtles are recorded on the DVD VIDEO
- Dependmg on the DVD VIDEO, you may not be able to change the sub-titles following the language for the sound, even if "AUDIO FOLLOW" is displayed
- Since the setting is not stored in memory, after changing the htle or operung the disc cover, the next tune a DVD VIDEO is played, the sub-htle may be changed

Changing the sub-titles

Press SUB-TITLE while playmg a DVD VIDEO

Each time you press the button, the indication and the sub-title change as follows

SUBTITLE 1 → SUBTITLE 2 → → AUDIO FOLLOW *

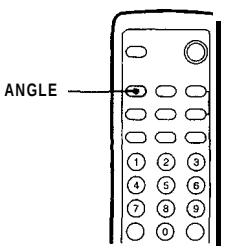


* When you select "AUDIO FOLLOW," the language for the sub-titles change according to the language for the sound

Changing the angles

DVD

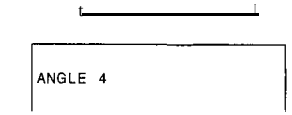
With DVD VIDEOs on which various angles (multi-angles) for a scene are recorded, you can change the angles whenever you want while playing the DVD VIDEO



Press ANGLE while playmg a DVD VIDEO and "ANGLE" appears in the front panel display

Each time you press the button, the indication and the angle change as follows

ANGLE 1 -ANGLE 2 →



You can set the angle before reaching the position where you can change the angle

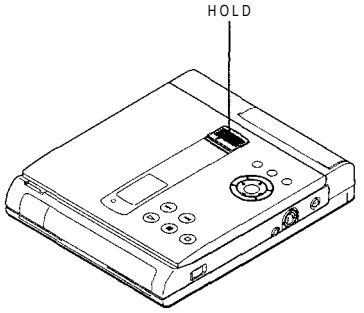
While playmg a DVD VIDEO, press ANGLE when "ANGLE" is not displayed in the front panel display When you reach the available position to change the angle, the angle is changed automatically

Notes

- The number of angles vanes from disc to disc or from scene to scene The number of angles that can be changed for a given scene is the same as the number of angles recorded for that scene
- Dependmg on the DVD VIDEO, you may not be able to change the angles even if multi-angles are recorded on the DVD VIDEO
- Dependmg on the DVD VIDEO, the angle may not be changed immediately even after pressing the ANGLE button

Preventing accidental pressing of the buttons

You can prevent accidental pressing of the buttons on this player (when carrying, for example) After setting the HOLD switch to ON, the buttons are locked (You can still use the remote to operate)



Set HOLD to the direction of the arrow

The buttons are locked

To cancel Hold function

Set HOLD back

Using the rechargeable battery pack

Note

NP-F530 and NP-F550 are not compatible

You can use headphones (not supplied) and a rechargeable battery pack (not supplied) to enjoy the player mdoors or outdoors

See below for compatible batteries

Compatible battery pack

See below for a list of compatible battery packs, and the corresponded playmg time and charging time

Battery life

unit (approx) hour

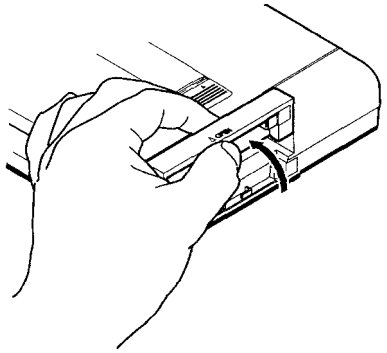
Battery pack	Playing time with		
	DVD VIDEO	VIDEO CD	Audio CD
NP-F730	2 0	3 0	2 8
F750	2 3	3 4	3 2
F930	33	4 8	45
F950	36	52	49

Charging time

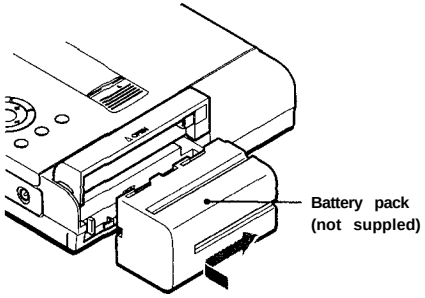
Battery pack	Charging time (Fully charged)
NP-F730	6 5
F750	7 0
F930	10 0
F950	11 0

Attaching the battery pack

1 Open the battery cover until the click sounds.



2 Attach the battery pack



To prevent accidental pressing of the buttons

Turn the power off during the attachment

Notes

- If you turn on the player while chargmg, chargmg is suspended until you turn off the player
- If you press D while **chargmg**, chargmg is suspended and playback starts Charging will resume when you turn off the player
- If you press OPEN while chargmg, charging is suspended After a while, the charging restarts

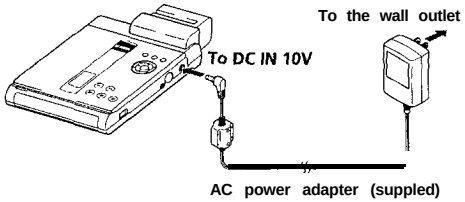
Recharging the battery pack

After attaching the battery pack, connect the AC power adapter, then recharge the battery pack (When using a recharged battery pack, the AC power adapter is not necessary)

1 Attach the battery pack to the player

2 Connect the AC power adapter to the player and plug into the wall outlet

When charging starts, "CHG" appears in the front panel display



3 Disconnect the AC power adapter from the player and pull out from the wall outlet after chargmg

When chargmg is complete, "CHG" disappears from the front panel display

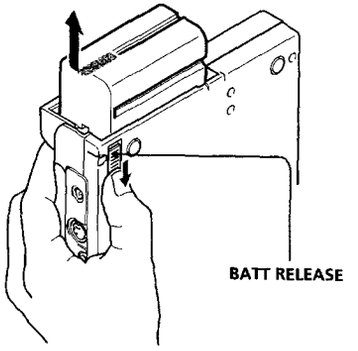
When to recharge the battery pack

When the battery power becomes weak, "⌫" appears on the TV screen and in the front panel display while using the player If you continue to use the player while "⌫" is displayed, eventually the player will stop working Connect the AC power adapter to start recharging the battery pack

Detaching the battery pack

Slide BATT RELEASE to detach the battery pack

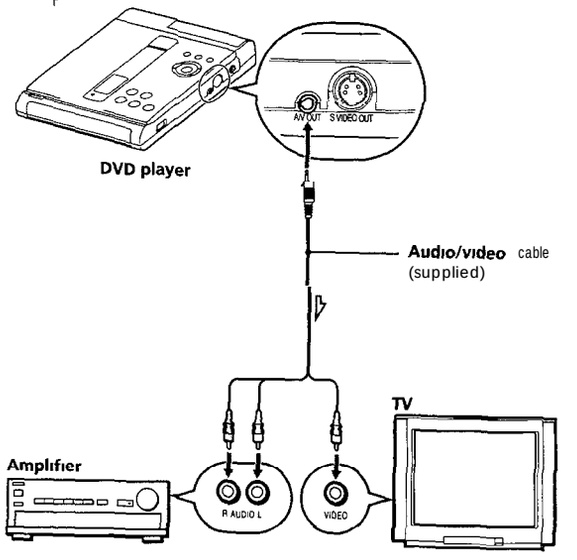
Be careful not to drop the battery pack



Using the audio amplifier

Connecting to the audio amplifier

Connect the TV and the amplifier using the audio / video cable (supplied)



Use the same connections If you amplifier conforms to "Pro Logic"

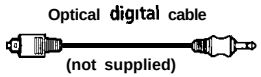
Note

Refer to the instructions supplied with the component to be connected

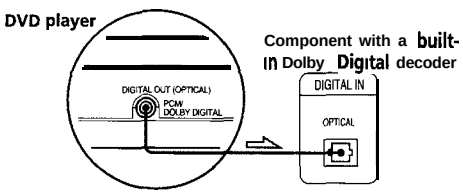
Connecting to a digital component with a built-in Dolby Digital decoder

Connect the component via the KM/DOLBY DIGITAL connector using an optical digital cable (not supplied) When the component with a built-in Dolby Digital decoder is connected, the player plays DVD VIDEOs with sound recorded in Dolby Digital (AC-3) format which produces the effect of being in a movie theater or a concert hall

When you play a DVD VIDEO, set "DIGITAL OUT" in "INITIAL SETUP" to "DOLBY DIGITAL" (page 56)



Insert the plug firmly



Notes

- Refer to the instructions supplied with the component to be connected
- You cannot make digital audio recordings of discs recorded in Dolby Digital (AC-3) format directly using an MD deck or DAT deck

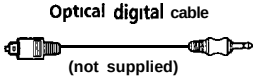
Note on digital recording

This player can be connected to an optional MD unit Before making a digital recording, be sure that "CD" appears in the front panel display after turning this player on or closing the disc cover Otherwise, the track numbers may not be recorded correctly

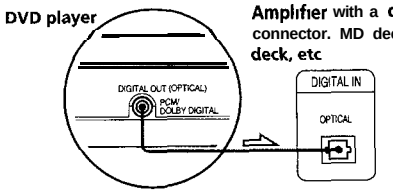
Connecting to a digital component such as an amplifier with a digital input connector, DAT or MD

Connect the component via the PCM/DOLBY DIGITAL connector using an optical digital cable (not supplied)

When you play a DVD VIDEO, set "DIGITAL OUT" in "INITIAL SETUP" to "D-KM" (page 56)



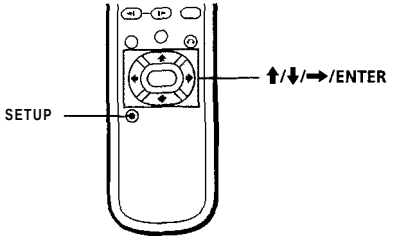
Insert the plug firmly



When you make the connections above, do not set "DIGITAL OUT" in "INITIAL SETUP" to "DOLBY DIGITAL" If you do, a loud noise will suddenly come out from the speakers, affecting your ears or causing the speakers to be damaged

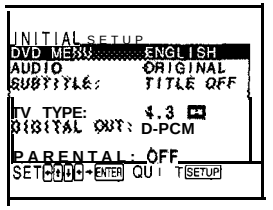
Basic settings (INITIAL SETUP) ❑

You can make all the necessary settings for setup and connections for this player using the INITIAL SETUP menu

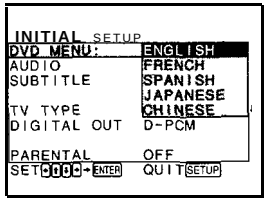


1 Press SETUP during stop playback

The INITIAL SETUP menu appears on the TV screen



2 Select the item using ↑/↓, then press ➡ or ENTER



3 Select the sethng using ↑/↓, then press ENTER

4 Press SETUP

To cancel the Initial Setup midway

Press SETUP

Note

Some items on "INITIAL SETUP" require operations other than selecting the setting For details on these items, see the relevant pages

Note

When you select a language that is not recorded on the DVD VIDEO, another recorded language is automatically selected

Note

when you select a language that is not recorded on the DVD VIDEO, another recorded language is automatically selected

INITIAL SETUP items

Default settmgs are underlined

■DVD MENU

Switches the language for the DVD menu recorded on the DVD VIDEO

- ENGLISH
- FRENCH
- SPANISH
- JAPANESE
- CHINESE
- KOREAN
- OTHERS

When you select "OTHER+," select and enter the language code from the list using the number buttons (page 78)

■AUDIO

Switches the language for the sound recorded on the DVD VIDEO

- ORIGINAL

The original language of the disc has playing priority

- ENGLISH
- FRENCH
- SPANISH
- JAPANESE
- CHINESE
- KOREAN
- OTHERS

When you select "OTHER+," select and enter the language code from the list using the number buttons (page 78)

Notes

. YOU cannot use the sub-titles with some DVD VIDEOs on which sub-titles are not recorded.

• Depending on the DVD VIDEO, you may not be able to change the sub-titles even if sub-titles are recorded on the DVD VIDEO.

• [illegible] you [illegible] language that is not recorded on the DVD VIDEO, another recorded language is automatically selected.

• when you select AU. FOLLOW, the same language used as "DVD AUDIO" appears as the sub-title.

Note

Depending on the DVD VIDEO, you may not be able to change the aspect ratio of the playback picture (see "Logo marks of DVD VIDEOs" on page 5).

■SUBTITLE

Switches the language for the sub-title recorded on the DVD VIDEO.

• TITLE OFF

. AU. FOLLOW

. ENGLISH

• FRENCH

• SPANISH

• JAPANESE

• CHINESE

• KOREAN

• OTHERS

When you select "OTHER+," select and enter the language code from the list using the number buttons (page 78).

■TV TYPE

Selects the aspect ratio of the TV to be connected.

• 4:3 (LETTER BOX)

When you connect a normal TV to the player.

When you play a wide picture recorded on a DVD VIDEO, the picture is displayed with bands across the upper and lower portions of the screen.

• 4:3 (PAN SCAN)

When you connect a normal TV to the player.

When you play a wide picture recorded on a DVD VIDEO, a portion of the picture is automatically cut off from the left and right sides of the image.

. 16:9

When you connect a wide-screen TV to the player.

Note

Select the setting correctly using "DIGITAL OUT." Otherwise, either no sound will come from the speakers or else strange sound will come from the speakers, affecting your ears or causing the speakers to be damaged.

■ DIGITAL OUT

Switches the outputting methods of audio signals from the PCM/DOLBY DIGITAL connector on the side panel of the player.

• D-PCM (Downmix PCM)

When the player is connected to an audio component without a built-in Dolby Digital (AC-3) decoder.

When you play Dolby Digital (AC-3) sound tracks, the output audio signals are mixed down to 2 channels.

. DOLBY DIGITAL

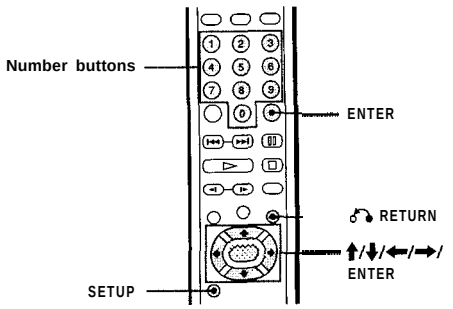
When the player is connected to an audio component with a built-in Dolby Digital (AC-3) decoder.

■ PARENTAL CONTROL

Set a password and playback limitation level when you play DVD VIDEOs with playback limitation for children. For details, see "Limiting playback by children (Parental Control)" on the next page.

Limiting playback by children (Parental Control)

Playing some DVD VIDEOs can be limited depending on the age of users. The "Parental Control" function allows you to set a playback limitation level.



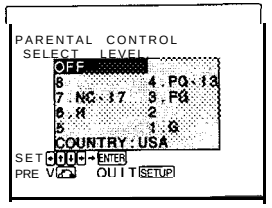
Setting the Parental Control

1 Press SETUP during stop playback.

The INITIAL SETUP menu appears on the TV screen.

2 Select "PARENTAL" using ↑ / ↓, then press ➡ or ENTER.

The PARENTAL CONTROL menu appears.

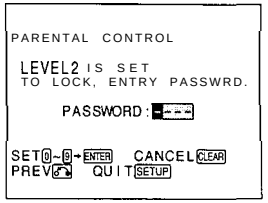


(continued)

3 Select the level using ←/↑/↓/➡, then press ENTER.

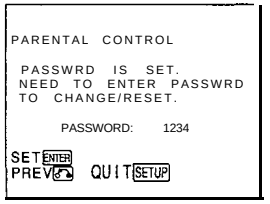
As the number of **the** level gets smaller, the restriction gets more severe.

The display for entering a password appears.



4 Enter a four-digit number using number buttons, then press ENTER.

The display for confirming a password appears.



5 Press ENTER.

The Parental Control level is locked, and the INITIAL SETUP menu appears.

To go back to the previous menu to change the setting

Press ↩ RETURN.

To return to the normal screen

Press SETUP

To change the country for the Parental Control

Select the country setting in Step 2, then press ENTER

Notes

- When you play DVD VIDEOs without the Parental Control function, playback cannot be limited on this player
- Depending on the DVD VIDEO, you may be asked to change the Parental Control level while playing the disc In this case, enter the password, then change the level

when you stop playing the DVD VIDEO, the level returns to the original level

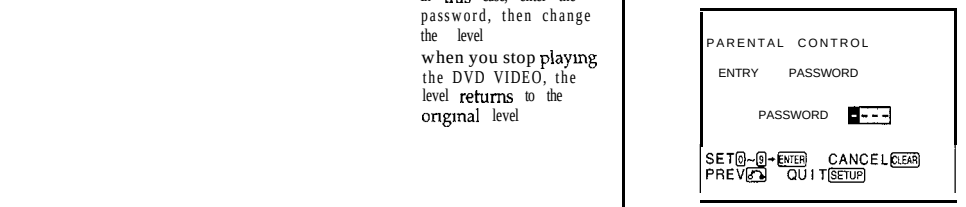
Changing/cancelling the Parental Control

1 Press SETUP during stop playback

The INITIAL SETUP menu appears on the TV screen

2 Select "PARENTAL" using ↑/↓, then press → or ENTER

The display for confirming the password appears



3 Enter the four-digit number you set using number buttons, then press ENTER

The display for setting the level appears

4 Select the level using ←/↑/↓/→, then press ENTER

As the number of the level gets smaller, the restriction gets more severe

When playing a disc without the Parental Control function, select "OFF" using ←/↑/↓/→, then press ENTER

5 Confirm the password, then press ENTER

If you want to change your password entered in Step 3, enter the new password using the number buttons, then press ENTER

The display for confirming the password appears

6 Press SETUP

The Parental Control level is locked

If you forget your password

Enter "84173" as the password in Step 3

Precautions

On safety

- Cauhon The optical instruments with this product will increase eye hazard

. Should any solid object or liquid fall into the cabinet, unplug the player and have it checked by qualified personnel before operahng it any further

Road safety

Do not use headphones/earphones while driving, cychng, or operahng any motorized vehicle It may create a traffic hazard and is illegal in some areas It can also be potenhally dangerous to play your headsets at high volume while walking, espenally at pedestrian crossings You should exercise extreme cauhon or discontinue use in potentially hazardous situations

On power sources

- Disconnect the DC IN 10V jack first, then disconnect from the wall outlet, even if the player itself has been turned off
- If you are not going to use the player for a long hme, be sure to disconnect the player from the wall outlet and/or detach the battery pack To disconnect the AC power adapter, grasp the plug Itself, never pull the cord

On placement

Do not place the player in a location where it is,

- On pedestal or unstable place
- On the rug or carpet
- On unleveled surface
- Very humid or a wobble where there is no venhlahon
- Subject to excessive dust
- Subject to direct sunlight or extremely hot
- Extremely cold
- Near a tuner, TV, or VCR

(Sound noise or picture noise may occur when another TV, tuner, VCR, or other electrical appliance is near by Indoor antennas may also adversely effect picture and sound quality In this case, use an outdoor antenna instead)

On operation

- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the player Should this occur, the player may not operate properly

  In this case, remove the disc and leave the player turned on for about 30 minutes unhl the moisture evaporates If the player doesn't operate properly after hours, please consult your nearest Sony dealer

. While operahng, do not move, shake, or otherwise allow any shock to the player It may cause a malfunction

- Use this player in a stable, horizontal position where it is not subject to vibration

On adjusting the volume

Do not turn up the volume while listening to a porhon with very low level inputs or no audio signals If you do, the speakers may be damaged when a peak level porhon is played

Turn the volume down before you start playback

On the rechargeable lithium-ion battery (not supplied)

- Keep the battery away from fire
- Keep the battery dry
- Do not expose the battery to any mechanical shock
- Do not open nor convert the battery

On cleaning the cabinet

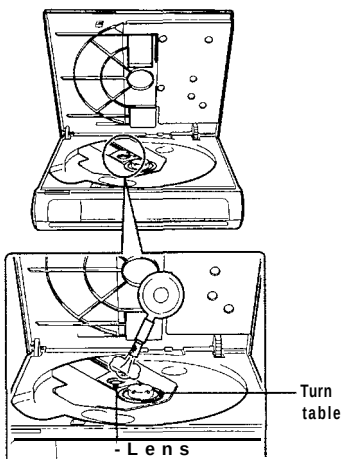
Clean the cabinet, panel, and controls with a soft cloth slightly moistened with a mild detergent soluhon Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine

(continued)

On cleaning the lens and turn table

. Do not touch the lens or surrounding area and be sure to keep the disc cover closed except when inserting or removing discs to protect against dust

. If you accidentally touch the lens with dirty fingers or if dust on the lens prevents the player from operating properly, clean the lens with the KK-DMI lens cleaning kit (not suppled)



- If the turn table does not work properly, check for dust or dirt on the turntable and clean using a soft cloth
- Never remove the printed "Warranty void if removed " seal attached around the lens

On transportation

- When you transport this player, use the original carton box and packing materials
- Before you move this player, make sure to remove the disc inserted

If you have any questions or problems concerning your player, please consult your nearest Sony dealer

IMPORTANT NOTICE

Caution· The enclosed DVD Player is capable of holding a shll video image or Menu image on your television screen indefinitely If you leave the still video image or Menu image displayed on your TV for an extended period of time, you nsk permanent damage to your television screen Projection televisions are very susceptible

Notes on discs

On handling discs

- To keep the disc clean, handle the disc by its edge Do not touch the surface
- Do not write on or stick paper or tape to the surface of the disc
- Do not use a disc with *tape, seals,* or paste on it as this may damage the player

- **Use only a disc with** a circle shape Do not use a disc with any other shape (star type, heart type, etc), as this may damage the player

On safekeeping

- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight as there can be considerable rise in temperature inside the car.
- After playing, store the disc in its case Piling up discs without cases or leaving the disc exposed may cause the disc shape to warp

On cleaning

- **Dirt** from a fingerprint or dust causes picture noise or declining sound quality **Always** keep the disc clean
- Clean the disc with a cleaning cloth Wipe the disc from the center out

- For dirt, clean the disc with a soft cloth slightly moistened with water, then remove the moisture with a soft dry cloth
- Do not use solvents such as benzine, thinner, commercially available cleaners, or antistatic spray intended for vinyl LPs

Troubleshooting

If you experience any of the following difficulties while using the player, use this froubleshootmg guide to help you remedy the problem Should any problem persist, consult your nearest Sony dealer

The power is not turned on.

→If the POWER indicator is not ht, check that the AC power adapter is connected securely When using the battery pack, check the consumption

→Make sure you use the supplied AC power adapter (Do not use any other AC power adapter)

→Check that the HOLD switch is set to off

→Disconnect the AC power adapter from this player and the wall outlet for more than one minute Then connect the AC power adapter and turn the power on again If the power is still not turned on, disconnect the AC power adapter and the battery pack and refer to your nearest Sony dealer

"COS Co dc In" appears in the front panel display.

→When using the battery pack, the AC power adapter is not connected to the wall outlet even if the AC power adapter is connected to the player Disconnect the AC power adapter from the player

→Check that the AC power adapter is connected to the wall outlet, then disconnect from this player and connect again.

There is no picture.

→Check that the player is connected securely.

→The video connechng cable is damaged Replace it with a new one

→Make sure you connect the player to the video input connector on the TV (page 11)

→Make sure you turn on the TV

→Make sure you select the video input ***on*** the TV so that you can view the pictures from the player

There is no sound.

→Check that the player is connected securely

→The audio connecting cable is damaged Replace it with a new one

→Make sure you connect the player to the audio input connectors on the amphher (page 50)

→Make ***sure you turn on*** the TV or the amplifier

→Make sure you select the appropriate position on the amplifier so that you can listen to the sound from the player

→The player is in pause mode or in Slow-mohon Play mode Press ▷ to return to Contmuous Play mode

→ The player is m Search mode Press ▷ to return to Continuous Play mode

→When you connect the player to an amphfier with DIGITAL OUT, set "DIGITAL OUT" in "INITIAL SETUP" correctly (pages 51, 52)

→Check that the headphones plug connected to the headphones jack is firmly connected to this player.

→Check that the VOL dial is not set to "0 "

The remote does not function.

→Remove any obstacles between the **remote** and the player
→Use the remote near the player
→Point the remote at the remote sensor on the player
→Replace all the batteries in the remote with new ones if they are weak
→Make sure you are using the supplied **remote**

Picture noise appears when the player is connected to the TV via the VCR.

→Do not connect the player to the VCR Connect the player directly to the TV (page 11).

Picture noise appears when you record and play back the picture of a DVD VIDEO on a *VCR.*

→This player features a copy protection funchon developed by Macrovision Copy protection signals are recorded on some DVD VIDEOs **When** you play and record the pictures of these discs on a VCR, picture noise appears

Sound or picture noise occurs.

→Clean the disc
→Connect the audio plug of the connecting cable firmly.
→This player features a copy protechon function developed by Macrovision Copy protechon signals are recorded on some DVD VIDEOs. When you play these discs, picture noise may appear on some TVs and projectors.
→Check that this player is placed in a horizontal position

The disc does not play.

→There is no disc inside Insert a disc
→Insert the disc with the playback side facing down correctly
→Insert the disc correctly
→Clean the disc
→Do **not** insert a disc which the player cannot play (page 4)
→Check the region code of the DVD VIDEO (page 4)
→Moisture has condensed inside the player. Remove the disc and leave the player turned on for about one hour Then turn the power off and then on again, and start playback (page 61).
→Check that this player is placed in a honzontal position
→The Parental Control funchon is set (page *57)*

The player does not play from the beginning when playing a disc.

→Resume Play is set Press RESUME on the remote durmg stop playback After "RESUME" disappears in the front panel display, start playback (page *39)*
+A htle menu, a DVD menu, or a PBC **menu** automahcally appears on the ***TV screen (pages*** 18, 19, 26)

The DVD VIDEO does not play when you select a title.

→The Parental Control function is set (page *57)*

The player starts playing automatically.

→The DVD VIDEO features the ***auto*** playback function

Stopping playback, Search, Slow-motion Play, etc. cannot be performed.

→Depending on the disc, ***you*** may not be able to do some of the operations. (Refer to the instructions supphed with the discs)

(continued)

Shuffle Play, Program Play, etc. cannot be performed.

→Depending on the DVD VIDEO or VIDEO CD, you may not be able to do these funchons

The disc rotation speed is changed.

→The disc rotation speed **may** differ, depending on the disc
→When the optional digital cable is connected, the disc rotation speed may be changed

The language for the sound cannot be changed when you play a DVD VIDEO.

→Multilingual sound is not recorded on the DVD VIDEO
→Changing the language for the sound is prohibited on the DVD VIDEO

The language for the sub-titles cannot be changed when you play a DVD VIDEO.

→Multilingual sub-htles are not recorded on the DVD VIDEO
→Changing the language for the sub-titles is prohibited on the DVD VIDEO

The sub-titles cannot be turned off when you play a DVD VIDEO.

→Turning the sub-titles off is prohibited on the DVD VIDEO

The angles cannot be changed when you play a DVD VIDEO.

→Multi-angles are not recorded on the DVD VIDEO.
→Change the angles when "ANGLE" appears in the front panel display (page 44)
→Changing the angles is prohibited on the DVD VIDEO

The Parental Control function does not work.

→Parental Control is ***not*** recorded on the DVD VIDEO
→The **country** sethng ***on*** the Parental Control level menu is not correct Set the country (page 59) and refer to the instruction of the DVD VIDEO

The aspect ratio of the screen cannot be changed when you play a wide picture of the DVD VIDEO.

→The aspect ratio is fixed on your DVD VIDEO (page 5)

The menu screen does not appear when you play a VIDEO CD.

→The VIDEO CD does not feature PBC functions
→Follow the correct operating procedure (Also refer to the instructions supplied with the VIDEO CD)

The sound loses stereo effect when you play a VIDEO CD or a CD.

→"1/L" or "2/R" appears in the front panel display
On **the** remote, press AUDIO CHANGE repeatedly until "1 /L 2/ R" appears (page 41)

The power is turned off automatically.

→The Auto Power Off funchon is activated (If you do not operate the player or the remote for more than 30 minutes while using the AC power adapter or for more than 10 minutes while using the battery pack **when a** disc is not being played, the power will be automahcally turned off

Indications in the front panel display are too light.

→The liquid crystal of the front panel display is already adjusted to be seen clearly from the front. It is not a malfunction if the indication appears vague when viewing from an obscure angle

The player or the AC power adapter heats up.

→It is **not a** serious problem (If the AC power adapter heats up excessively, disconnect the AC power adapter and the optional battery pack, then consult your nearest Sony dealer)
Touching this player or the AC power adapter for a long hme may cause a slight burning sensation

Note

If the player does not play normally while using the AC power adapter due to static electricity, etc , disconnect the plug from the wall outlet and the AC power adapter from the player, then plug in and connect the AC power adapter to the player again

The OPEN button does not work.

→ The Hold function is on Slide the HOLD switch to OFF

→ The power is not supplied from the AC power adapter or the battery pack Supply the power source or slide the MANUAL LID RELEASE switch on the rear panel in the direction of the arrow

"⊘" appears on the TV screen even after pressing operation buttons.

→The DVD VIDEO is unable to do the operation

The alphabet and numbers appear on the TV screen or in the front panel display.

→ Self-diagnosis function is currently working (page 72)

(continued)

Glossary

Chapter

Sections of a picture or a music piece on a DVD VIDEO that are smaller than titles A title is composed of several chapters Each chapter IS assigned a chapter number enabling you to locate the chapter you want

Dolby Digital (AC-3)

Digital audio compression technology that the Dolby Laboratories Corporation developed This technology conforms to 5 l-channel surround. When **connecting** a component with a built-in Dolby Digital decoder, you can enjoy more real audio presence

DVD

A disc that contains up to 8 hours of moving pictures even though its diameter is the same as a CD

The data capacity of a single-layer and single-sided DVD, at 4 7 GB (Giga Byte), is 7 hmes that of a CD Furthermore, the data capacity of a dual-layer and single-sided DVD is 8 5 GB, a single-layer and double-sided DVD 9 4 GB, and a dual-layer and double-sided DVD 17 GB

DVD VIDEO

A DVD recorded with moving pictures On a DVD VIDEO, the picture data uses the MPEG 2 format, one of the worldwide standards of digital compression technology The picture data is compressed to about 1/40 of its original size The DVD also uses the variable rate coding technology that changes the data to be allocated accordmg to the status of the picture The audio data is recorded in Dolby Digital (AC-3) as well as in PCM, allowing you to enjoy more real audio presence

Furthermore, various advanced functions such as the multi-angle, multilingual, and Parental Control functions are provided with DVD VIDEOs

Multi-angle function

Various angles, or viewpoints of the video camera, for a scene are recorded on some DVD VIDEOs

Multilingual function

Several languages for the sound or subtitles in a picture are recorded on some DVD VIDEOs

Parental Control

A function of the DVD VIDEO for playback limitation of the disc by the age of the users accordmg to the limitation level in each country. The limitation vanes from disc to disc, when it is activated, playback IS completely prohibited, or violent scenes are skipped or replaced with other scenes etc

Playback Control (PBC)

Signals encoded on VIDEO CDs (Version 2 0) to control playback

By using menu screens recorded on VIDEO CDs with PBC functions, you can enjoy playmg simple interactive programs, programs with search functions, *and so on*

Title

The longer sections of a picture or a music piece on a DVD VIDEO, a movie, etc , or a picture piece on a video software or an album, etc, or a music piece on an audio software Each title is assigned a htle number enabling you to locate the title you want

Track

Sections of a picture or a music piece on a CD or VIDEO CD Each track is assigned a track number enabling you to locate the track you want

VIDEO CD

A compact disc that contains movmg pictures

The picture data uses the MPEG 1 format, one of the worldwide standards of digital compression technology The picture data is compressed to about 1/ 140 of its original size Consequently, a 12 cm VIDEO CD can contain up to 74 minutes of movmg pictures

VIDEO CDs also contain compact audio data Sounds outside the range of human hearing are compressed while the sounds we can hear are not compressed VIDEO CDs can hold 6 hmes the audio mformahon of convenhonal audio CDs

There are 2 versions of VIDEO CDs

- Version 1 1 You can play only movmg pictures and sounds
- Version 2 0 You can play high-resolution still pictures and enjoy PBC functions

This player conforms to both versions

Language code list

For details, see pages 54 and 55

The language spellings conform to the ISO 639 1988 (E/F) standard (December 1996)

Code	Language	Code	Language	Code	Language
1027	Afar	1150	Estonian	1283	Javanese
1028	Abkhazian	1151	Basque	1287	Georgian
1032	Afrikaans	1157	Persian	1297	Kazakh
1039	Amharic	1165	Finnish	1298	Greenlandic
1044	Arabic	1166	Fiji	1299	Cambodian
1045	Assamese	1171	Faroese	1300	Kannada
1051	Aymara	1174	French	1301	Korean
1052	Azerbaijani	1181	Frisian	1305	Kashmiri
1053	Bashkir	**1183**	Irish	1307	Kurdish
1057	Byelorussian	1186	Scots Gaelic	1311	Kirghiz
1059	Bulgarian	1194	Galician	1313	Latin
1060	Bihari	1196	Guarani	1326	Lingala
1061	Bislama	1203	Gujarati	1327	Laothian
1066	Bengali, Bangla	1209	Hausa	1332	Lithuanian
1067	Tibetan	1217	Hindi	1334	Latvian, Lettish
1070	Breton	1226	Croatian	1345	Malagasy
1079	Catalan	1229	Hungarian	1347	Maori
1093	Corsican	1233	Armenian	1349	Macedonian
1097	Czech	1235	Interlingua	1350	Malayalam
1103	Welsh	1239	Interlingue	1352	Mongolian
1105	Danish	1245	Inupiak	1353	Moldavian
1109	German	1248	Indonesian	1356	Marathi
1130	Bhutani	1253	Icelandic	1357	Malay
1142	Greek	1254	Italian	1358	Maltese
1144	English	1257	Hebrew	1363	Burmese
1145	Esperanto	1261	Japanese	1365	Nauru
1149	Spanish	1269	Yiddish	1369	Nepali

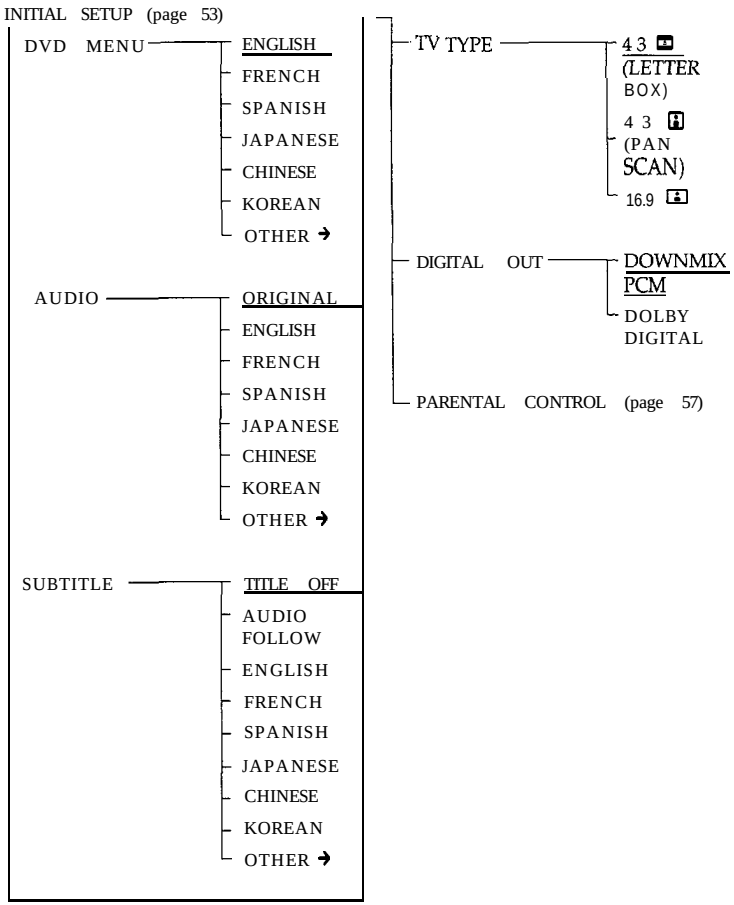
Code	Language
1376	Dutch
1379	Norwegian
1393	Occitan
1403	(Afan) Oromo
1408	Onya
1417	Punjabi
1428	Polish
1435	Pashto, Pushto
1436	Portuguese
1463	Quechua
1481	Rhaeto-Romance
1482	Kirundi
1483	Romanian
1489	Russian
1491	Kinyarwanda
1495	Sanskrit
1498	Sindhi
1501	Sangho
1502	Serbo-Croatian

Code	Language
1502	Serbo-Croatian
1503	Singhalese
1505	Slovak
1506	Slovenian
1507	Samoan
1508	Shona
1509	Somali
1511	Albanian
1512	Serbian
7513	Siswati
1514	Sesotho
1515	Sundanese
1516	Swedish
1517	Swahili
1521	Tamil
1525	Telugu
1527	Tajik
1528	Thai
1529	Tigrinya

Code	Language
1531	Turkmen
1532	Tagalog
1534	Setswana
1535	Tonga
1538	Turkish
1539	Tsonga
1540	Tatar
1543	Twi
1557	Ukrainian
1564	Urdu
1572	Uzbek
1551	Vietnamese
1587	Volapuk
1613	Wolof
1632	Xhosa
1665	Yoruba
1684	Chinese
1697	Zulu
1703	Not specified

INITIAL SETUP items list

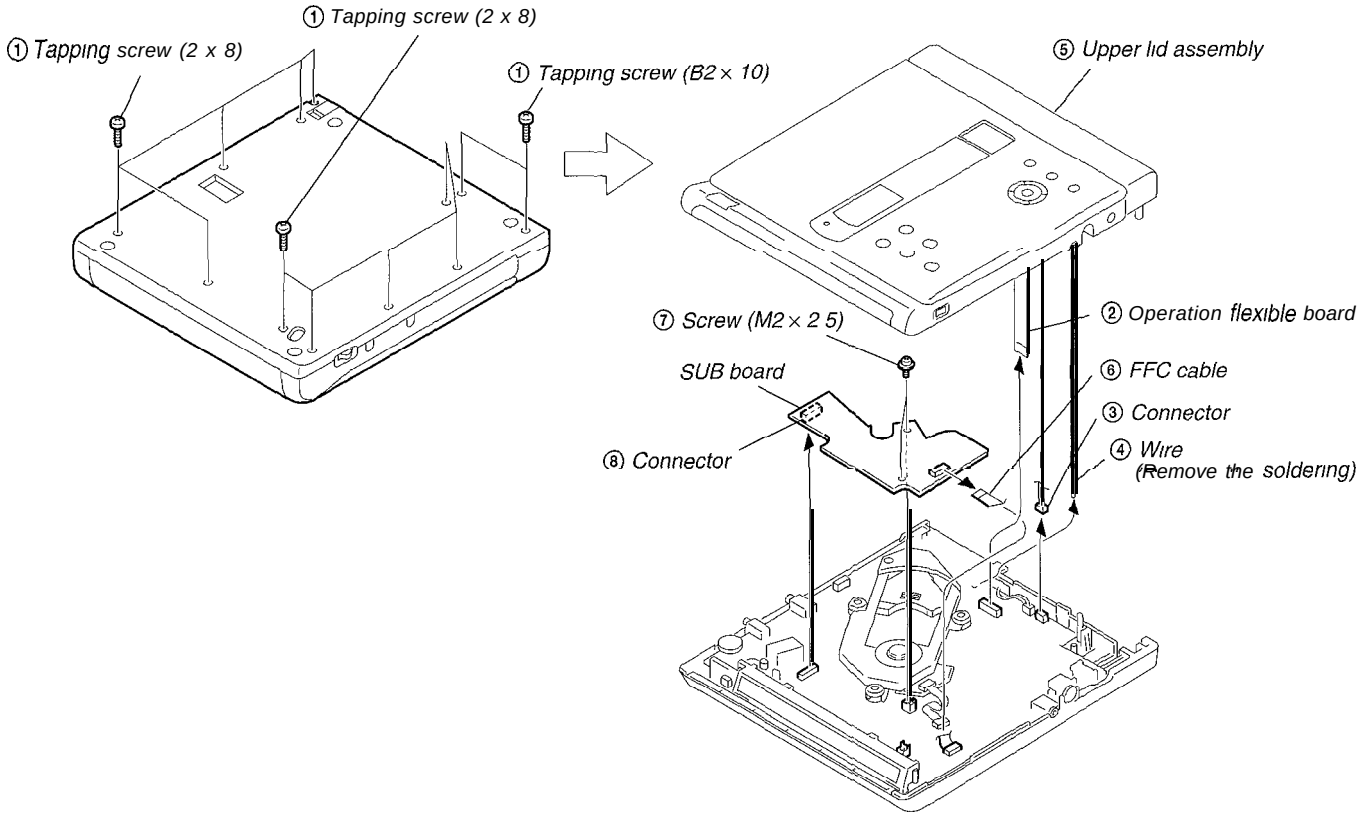
Default settings are underlined



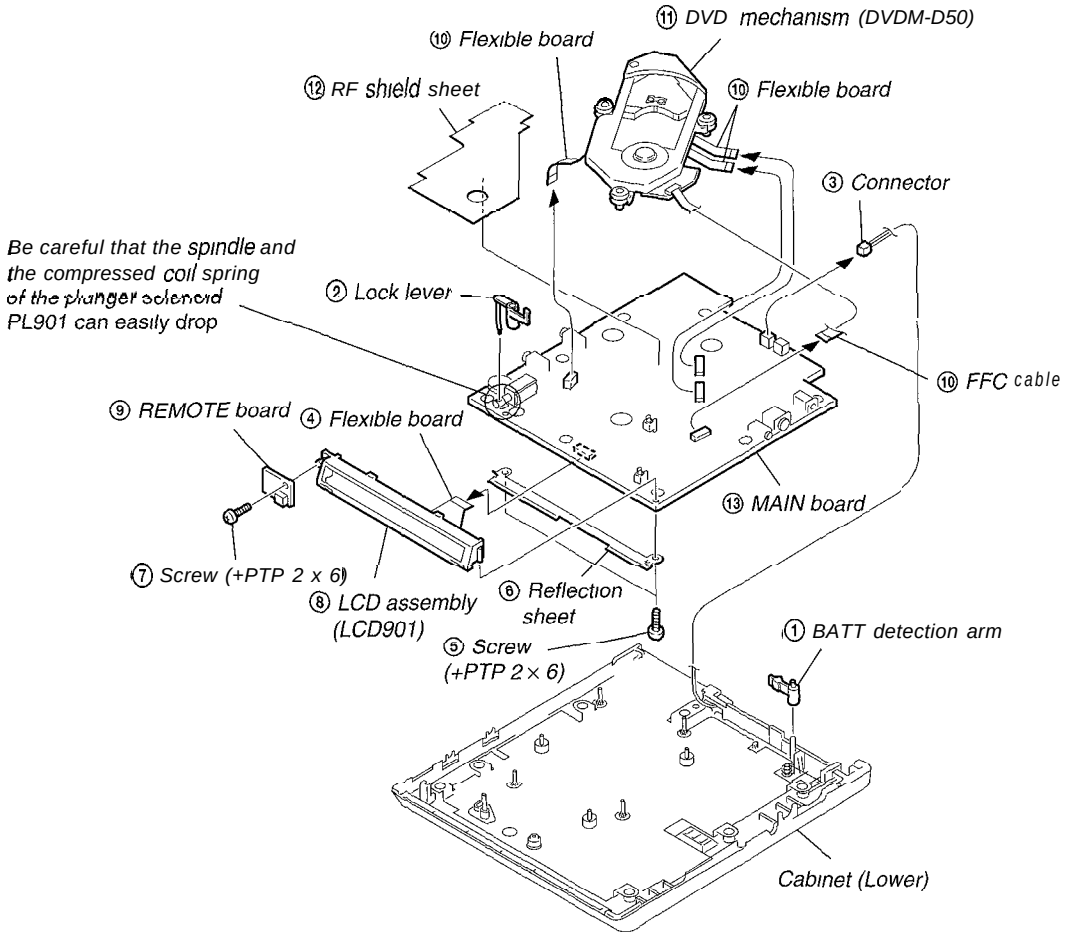
SECTION 2
DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given

2-1. SUB BOARD

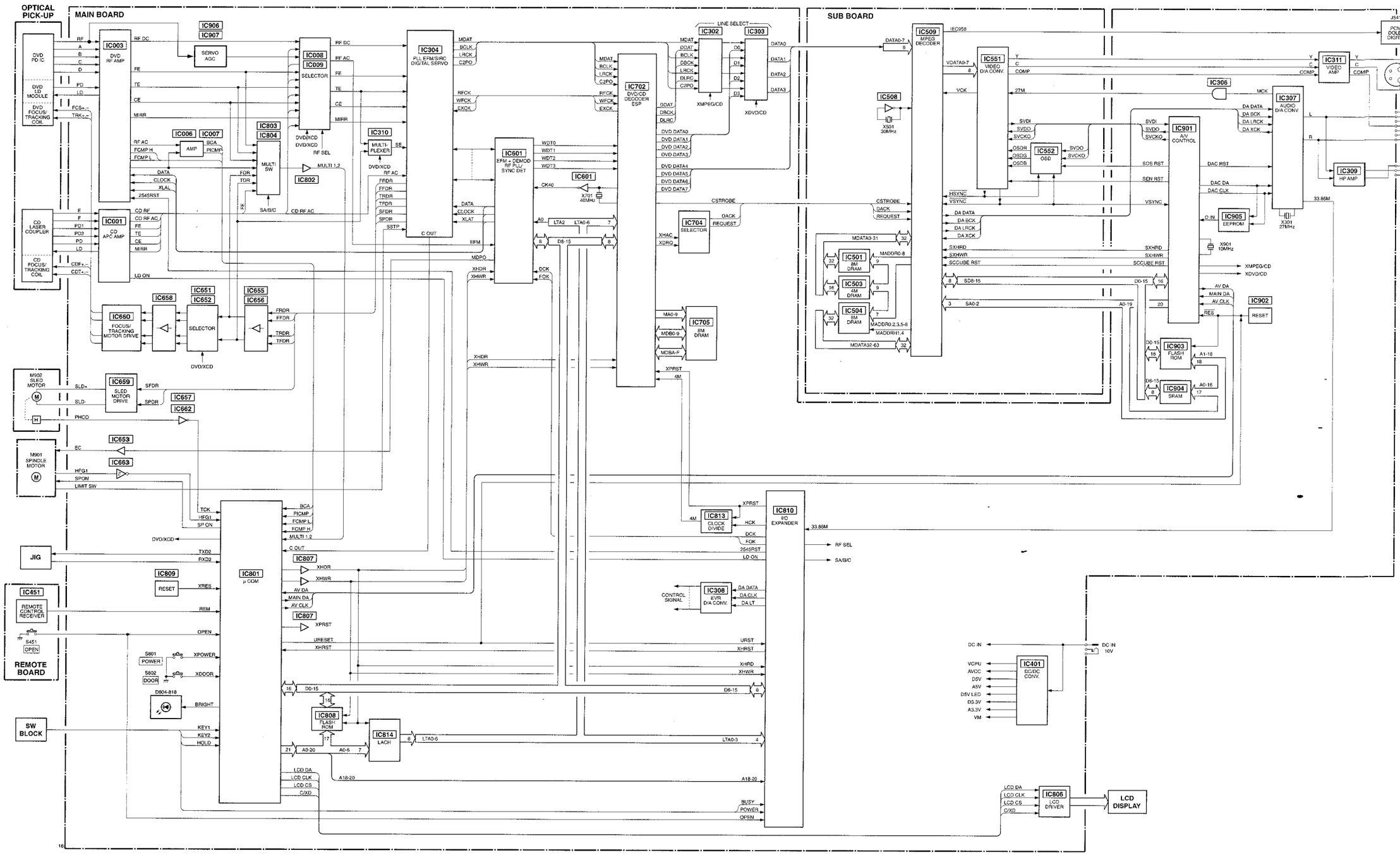


2-2. DVD MECHANISM (DVDM-D50), MAIN BOARD

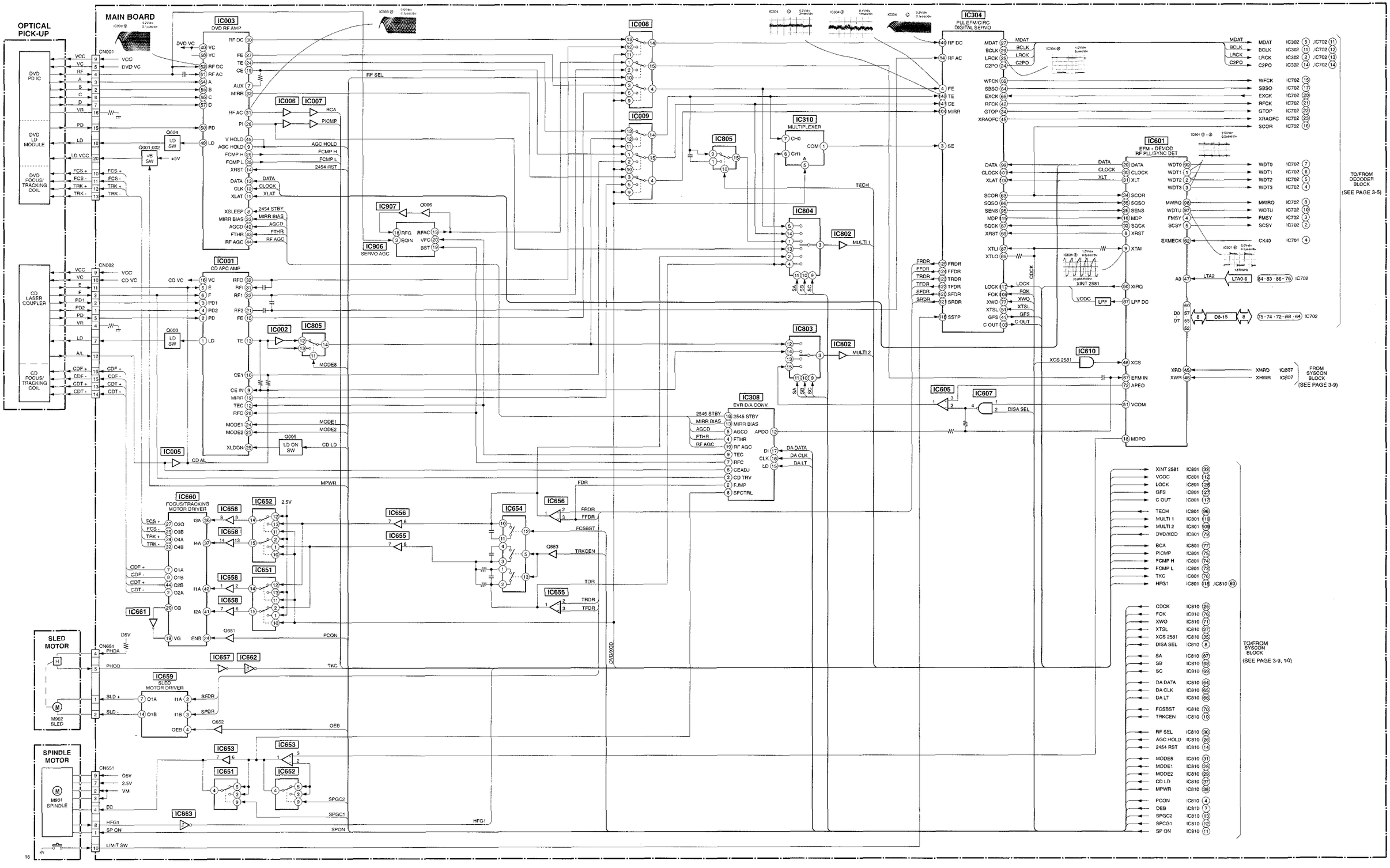

⑪ DVD mechanism (DVDM-D50)
⑩ Flexible board
⑫ RF shield sheet
⑩ Flexible board
③ Connector
Be careful that the spindle and the compressed coil spring of the plunger solenoid PL901 can easily drop
② Lock lever
⑩ FFC cable
⑨ REMOTE board
④ Flexible board
⑬ MAIN board
⑦ Screw (+PTP 2 x 6)
⑧ LCD assembly (LCD901)
⑥ Reflection sheet
⑤ Screw (+PTP 2 × 6)
① BATT detection arm
Cabinet (Lower)

SECTION 3
BLOCK DIAGRAMS

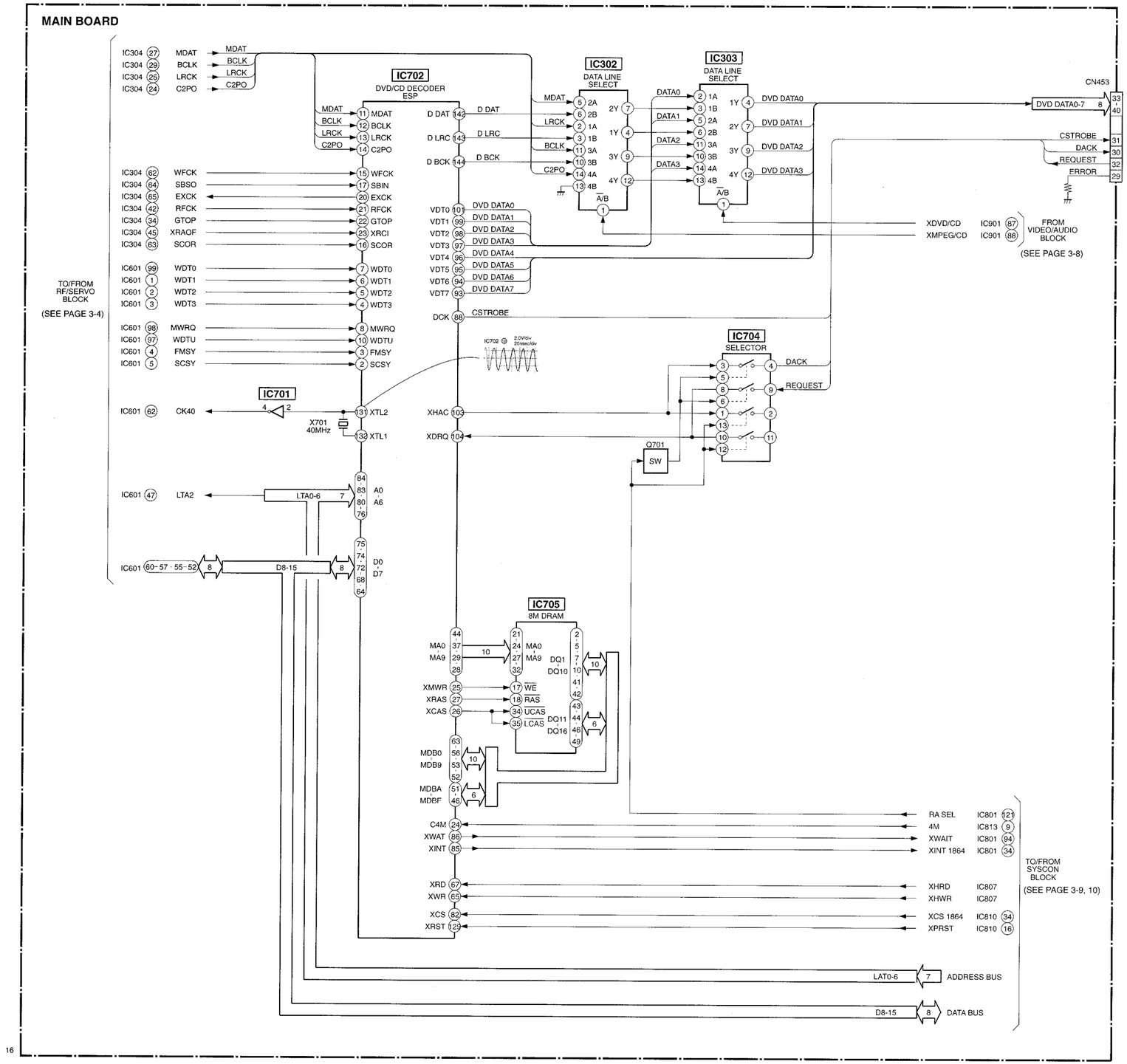
3-1. OVERALL BLOCK DIAGRAM



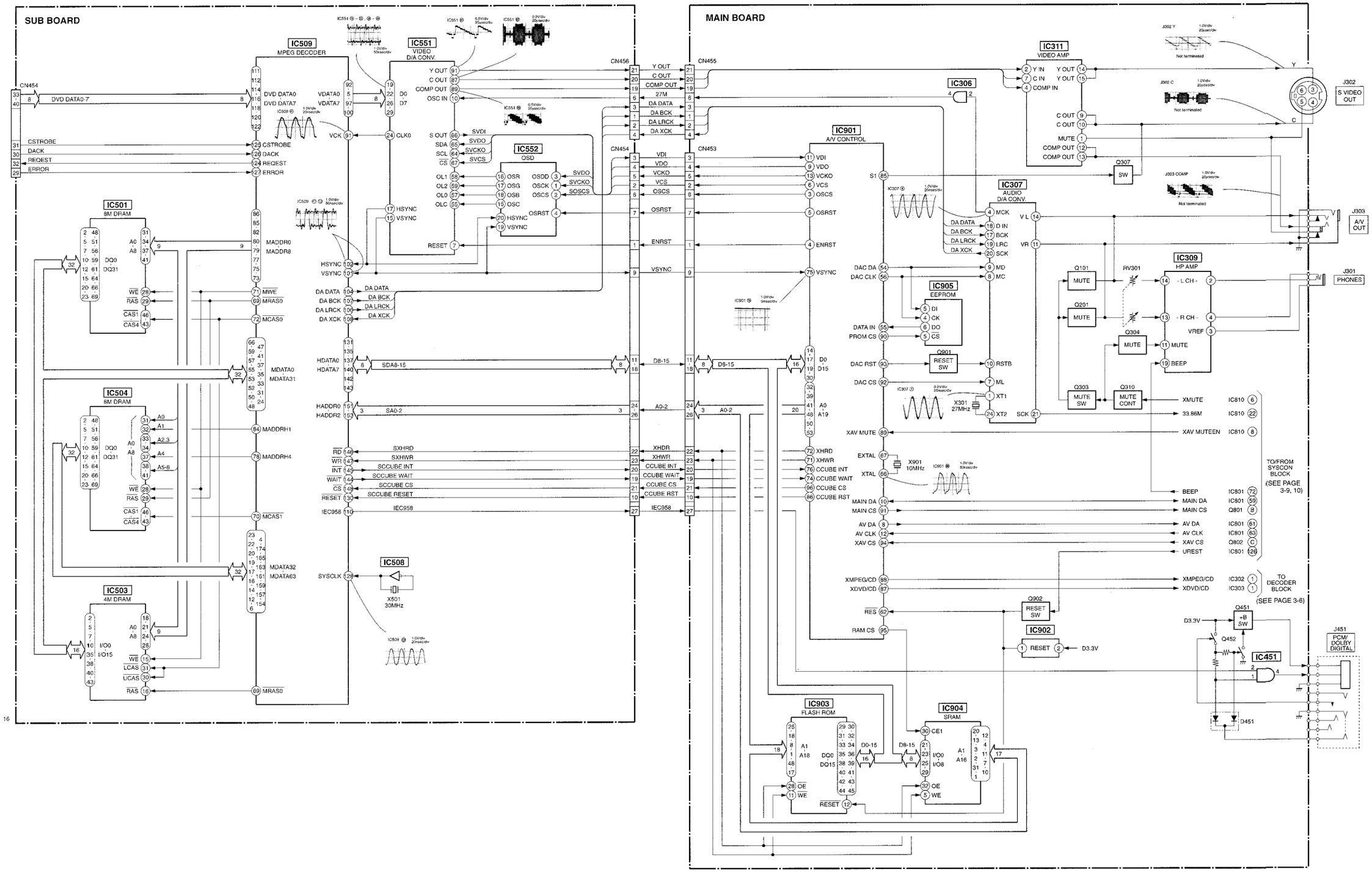
3-2. RF SERVO BLOCK DIAGRAM



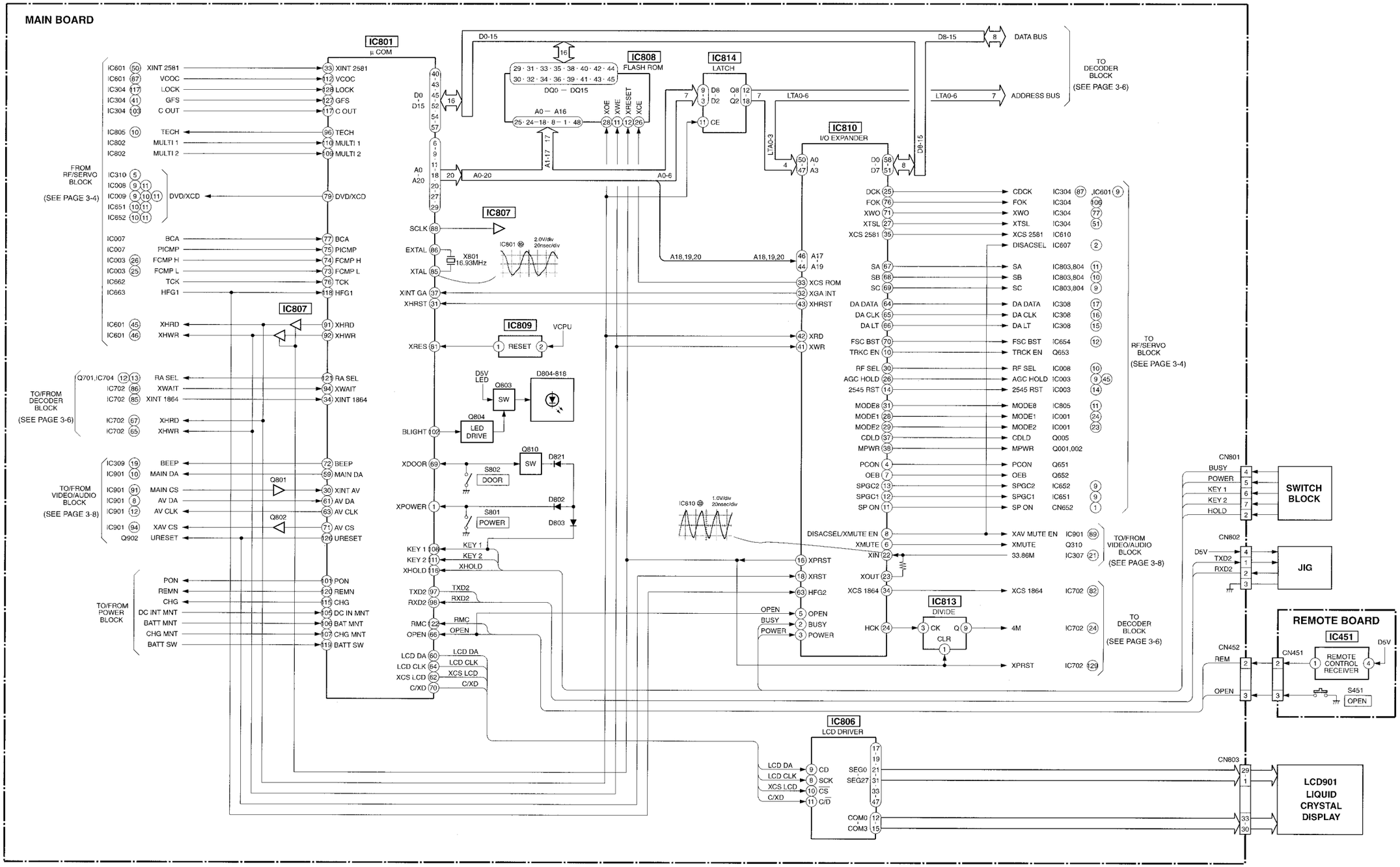
3-3. SCSI INTERFACE BLOCK DIAGRAM



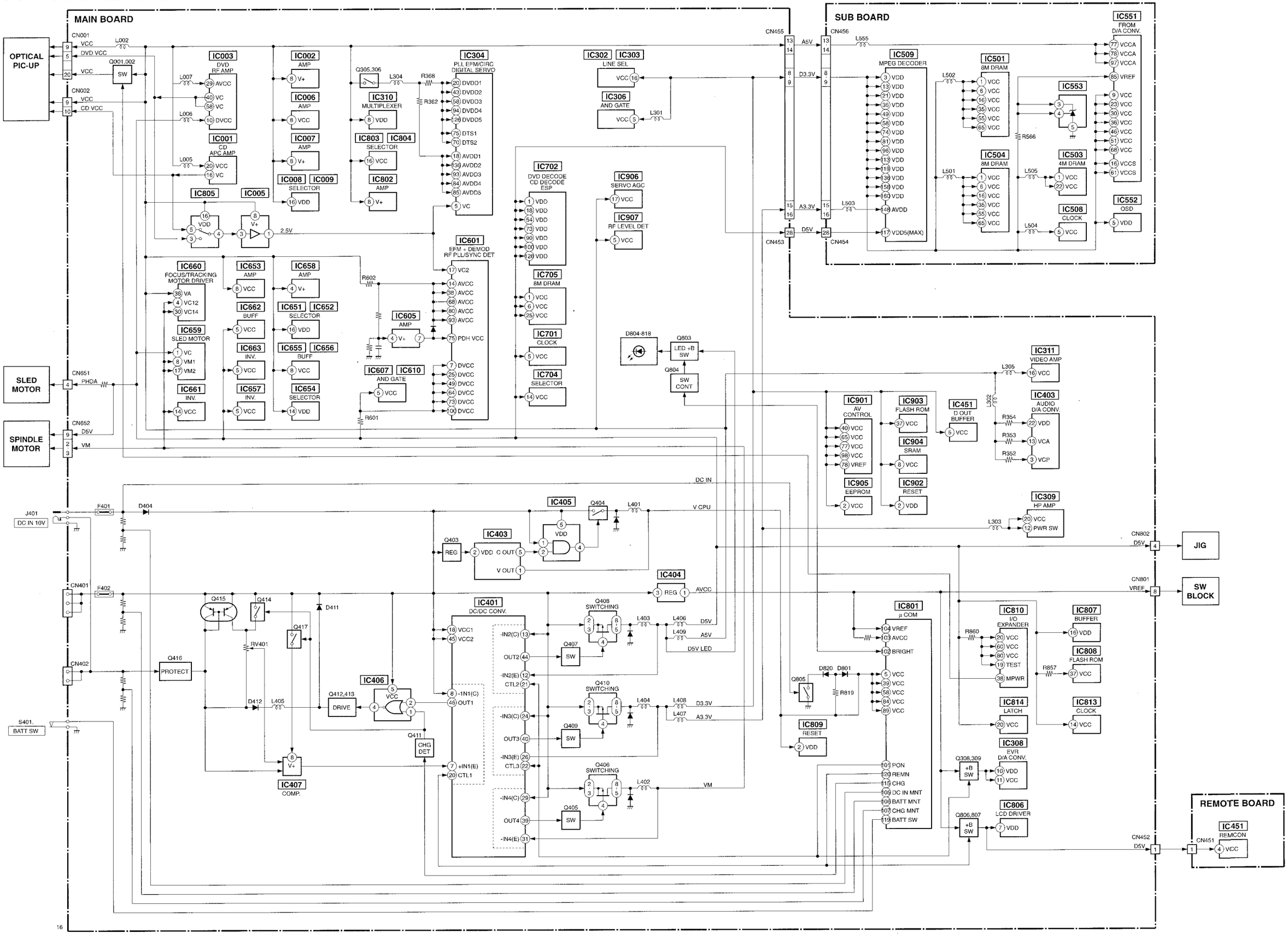
3-4. VIDEO/AUDIO BLOCK DIAGRAM



3-5. SYSTEM CONTROL BLOCK DIAGRAM



3-6. POWER BLOCK DIAGRAM

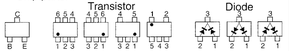


SECTION 4
PRONTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)

- ▨: Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted. kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used. In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → EDIT PB/XREC → PB/$\overline{REC}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line *
- : B– Line *
- : IN/OUT direction of (+,–) B LINE. *
- : adjustment for repair. *
- Circled numbers refer to waveforms. *

* Indicated by the color red.

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

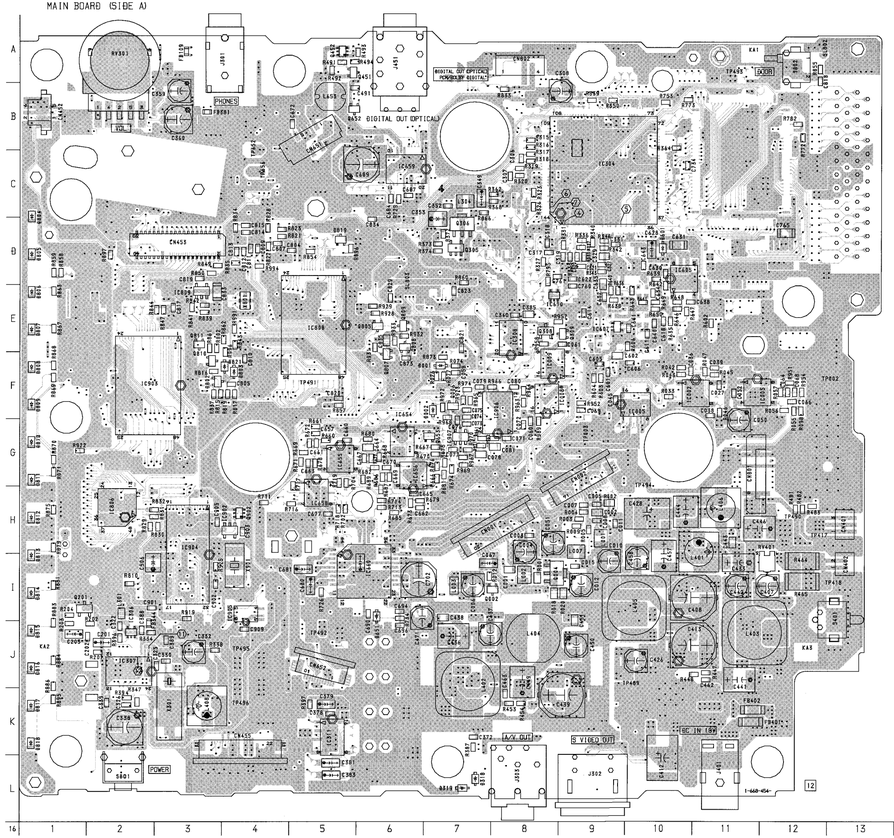
MAIN BOARD

CN001	H-8	D815	J-1	IC813	D-20
CN002	G-9	D816	J-1	IC814	D-22
CN401	H-13	D817	K-1	IC901	I-25
CN402	I-13	D818	K-1	IC902	H-4
CN452	B-1	D819	D-5	IC903	F-2
CN453	D-3	D820	F-22	IC904	H-3
CN455	K-4	D821	F-4	IC905	I-4
CN651	B-5			IC906	F-8
CN652	J-5	IC001	G-19	IC907	G-7
CN751	C-13	IC002	F-11		
CN801	G-11	IC003	H-20	J301	A-4
CN802	A-8	IC005	F-12	J302	L-9
CN803	H-26	IC006	G-20	J303	L-8
		IC007	G-21	J401	L-11
D001	F-7	IC008	F-8	J451	A-6
D002	F-7	IC009	F-8		
D101	A-25	IC302	C-26	Q001	I-21
D102	A-25	IC303	C-25	Q002	I-8
D103	L-22	IC304	C-9	Q003	H-18
D104	K-22	IC306	J-2	Q004	I-8
D201	B-24	IC307	J-2	Q005	G-18
D202	B-24	IC308	E-8	Q006	F-7
D203	L-22	IC309	B-25	Q101	K-26
D204	L-22	IC310	C-21	Q201	I-1
D302	B-24	IC311	K-5	Q303	B-26
D303	B-24	IC401	J-19	Q304	B-26
D304	L-18	IC403	H-17	Q305	D-7
D305	L-18	IC404	H-16	Q306	D-7
D308	L-18	IC405	H-17	Q307	K-18
D309	L-18	IC406	I-18	Q308	E-8
D312	L-18	IC407	I-16	Q309	E-9
D313	L-18	IC451	A-22	Q403	H-18
D318	L-7	IC601	E-18	Q404	H-17
D319	L-7	IC605	D-10	Q405	K-21
D320	K-19	IC607	E-9	Q406	J-21
D321	K-19	IC610	E-8	Q407	J-17
D322	C-24	IC651	H-23	Q408	J-17
D401	K-18	IC652	H-22	Q409	I-21
D404	K-16	IC653	G-22	Q410	J-21
D405	H-18	IC654	G-6	Q411	I-17
D406	H-17	IC655	G-5	Q412	J-17
D407	H-17	IC656	G-6	Q413	J-18
D408	K-21	IC657	B-23	Q414	I-17
D409	J-16	IC658	H-5	Q415	I-17
D410	J-20	IC659	C-6	Q416	I-16
D411	J-17	IC660	I-6	Q417	I-17
D412	I-17	IC661	I-22	Q451	A-5
D451	A-22	IC662	C-24	Q452	A-5
D601	D-10	IC663	J-23	Q651	I-23
D652	I-21	IC701	C-19	Q652	B-5
D653	I-22	IC702	C-18	Q653	G-7
D751	D-16	IC704	D-19	Q701	D-19
D752	D-16	IC705	B-16	Q751	D-16
D801	F-23	IC751	C-11	Q752	D-16
D802	F-3	IC752	D-11	Q753	D-16
D803	F-4	IC801	E-24	Q801	E-22
D804	C-1	IC802	C-23	Q802	F-25
D805	D-1	IC803	C-22	Q803	D-26
D806	E-1	IC804	C-23	Q804	D-26
D807	E-1	IC805	F-10	Q805	E-6
D808	F-1	IC806	H-2	Q806	F-22
D809	F-1	IC807	E-25	Q807	F-6
D810	G-1	IC808	E-5	Q808	E-6
D811	G-1	IC809	E-3	Q809	E-6
D812	H-1	IC810	E-21	Q810	F-3
D813	H-1	IC811	E-26	Q811	E-3
D814	I-1	IC812	D-8	Q901	J-25

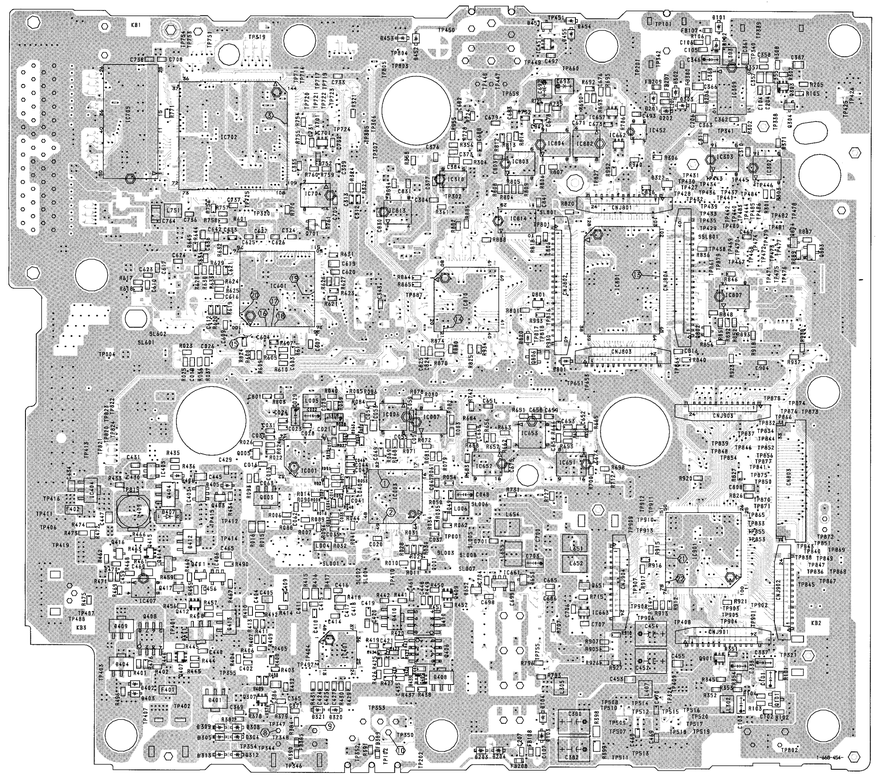
MAIN PRINTED WIRING BOARD

There are few cases that the part printed on this diagram isn't mounted in this model.

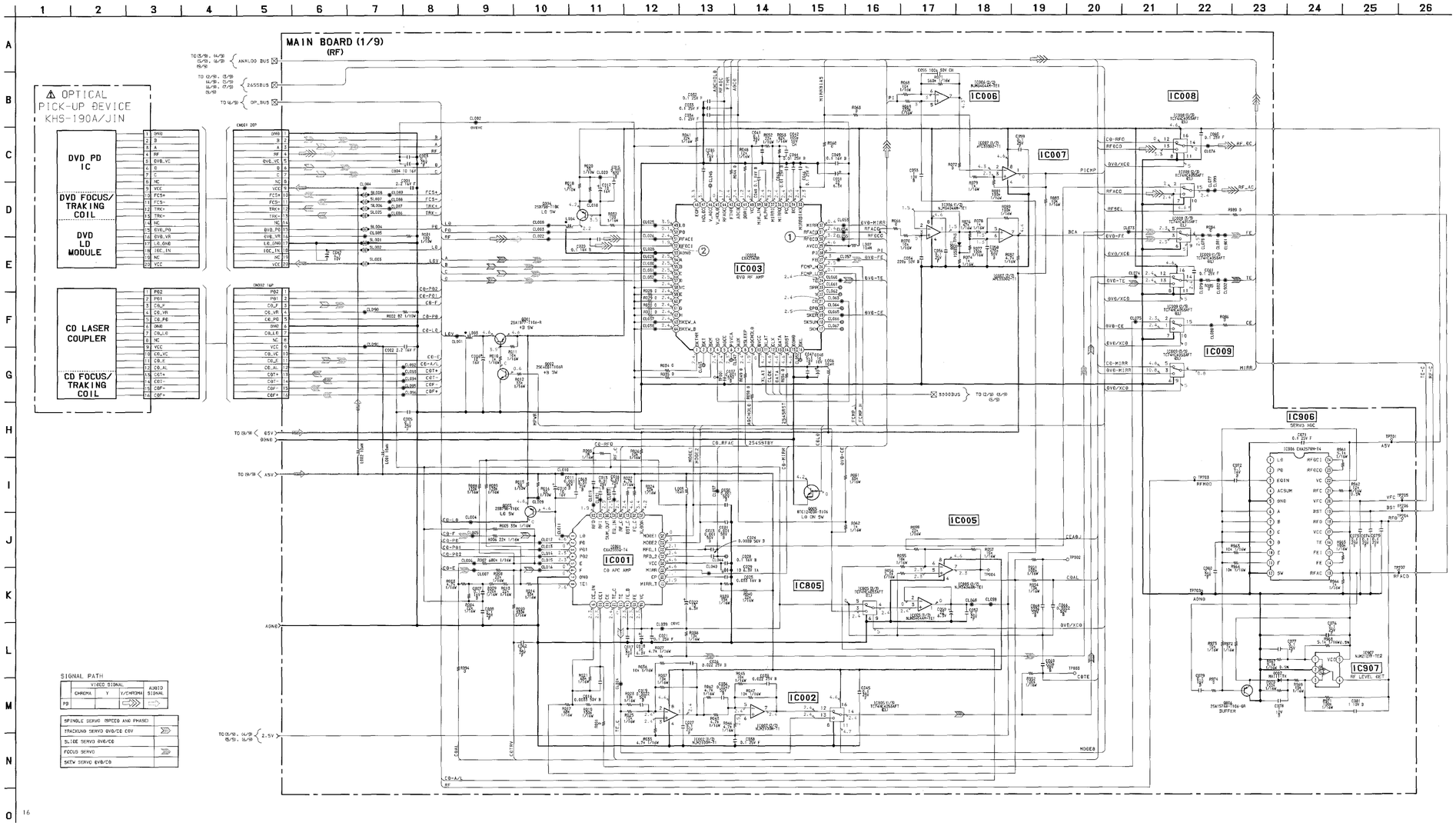
MAIN BOARD (SIDE A)



MAIN BOARD (SIDE B)

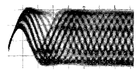


MAIN (RF) SCHEMATIC DIAGRAM

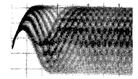


MAIN BOARD (1/9)

① IC003 ㉛ 0.5V/div 0.1μsec/div



② IC003 ㉜ 0.2V/div 0.1μsec/div

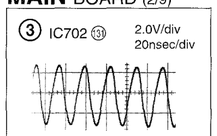


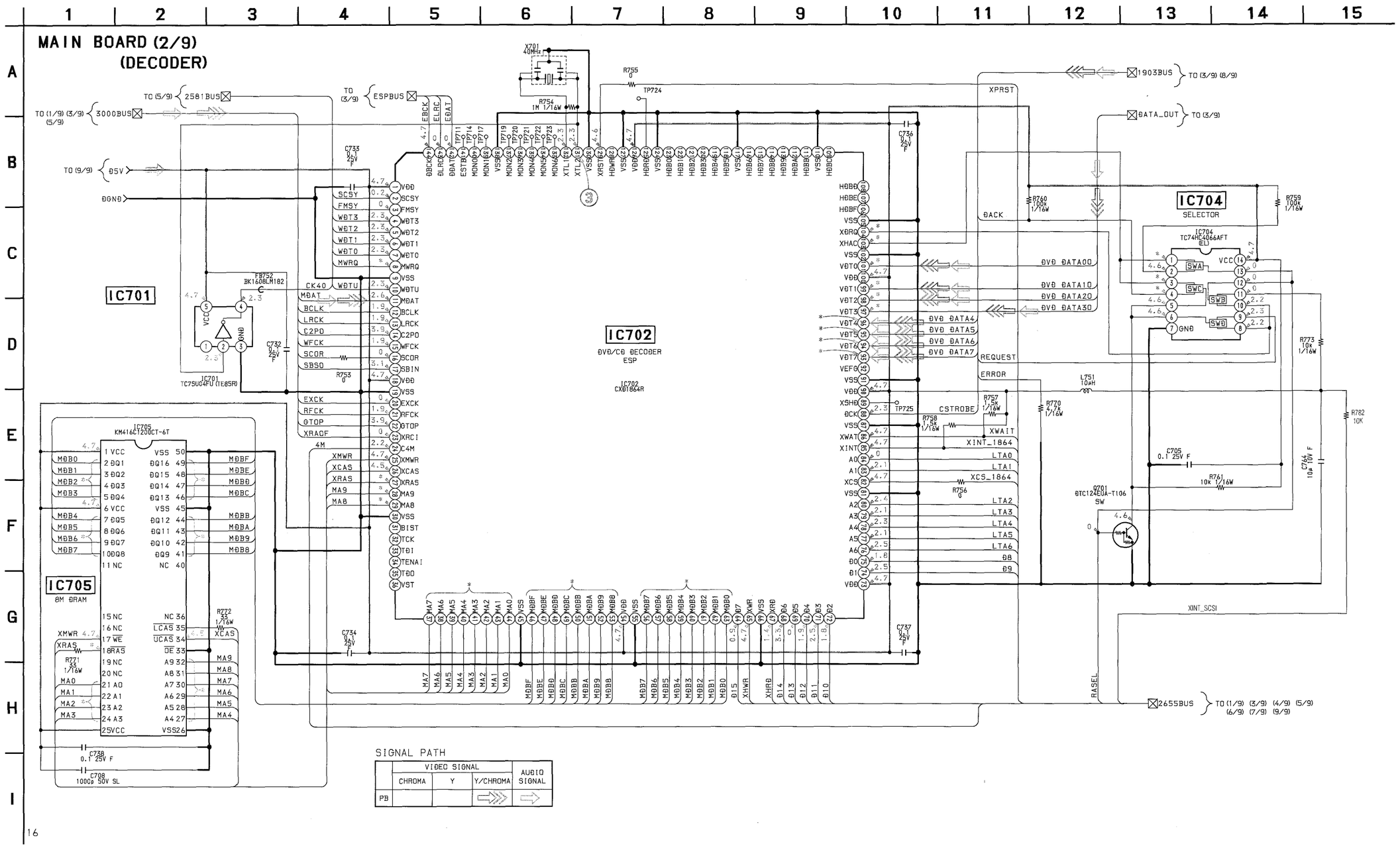
MAIN (DECODER) SCHEMATIC DIAGRAM

• See page 4-2 for MAIN BOARD printed wiring board.

MAIN BOARD (2/9)

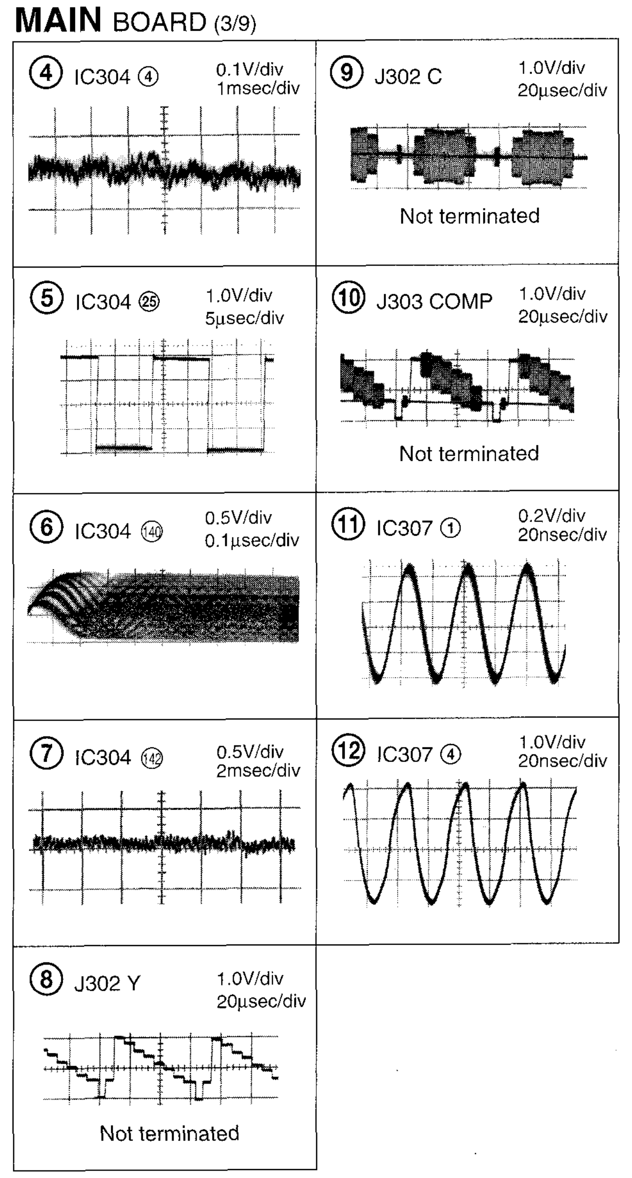
③ IC702 ⑬ 2.0V/div 20nsec/div

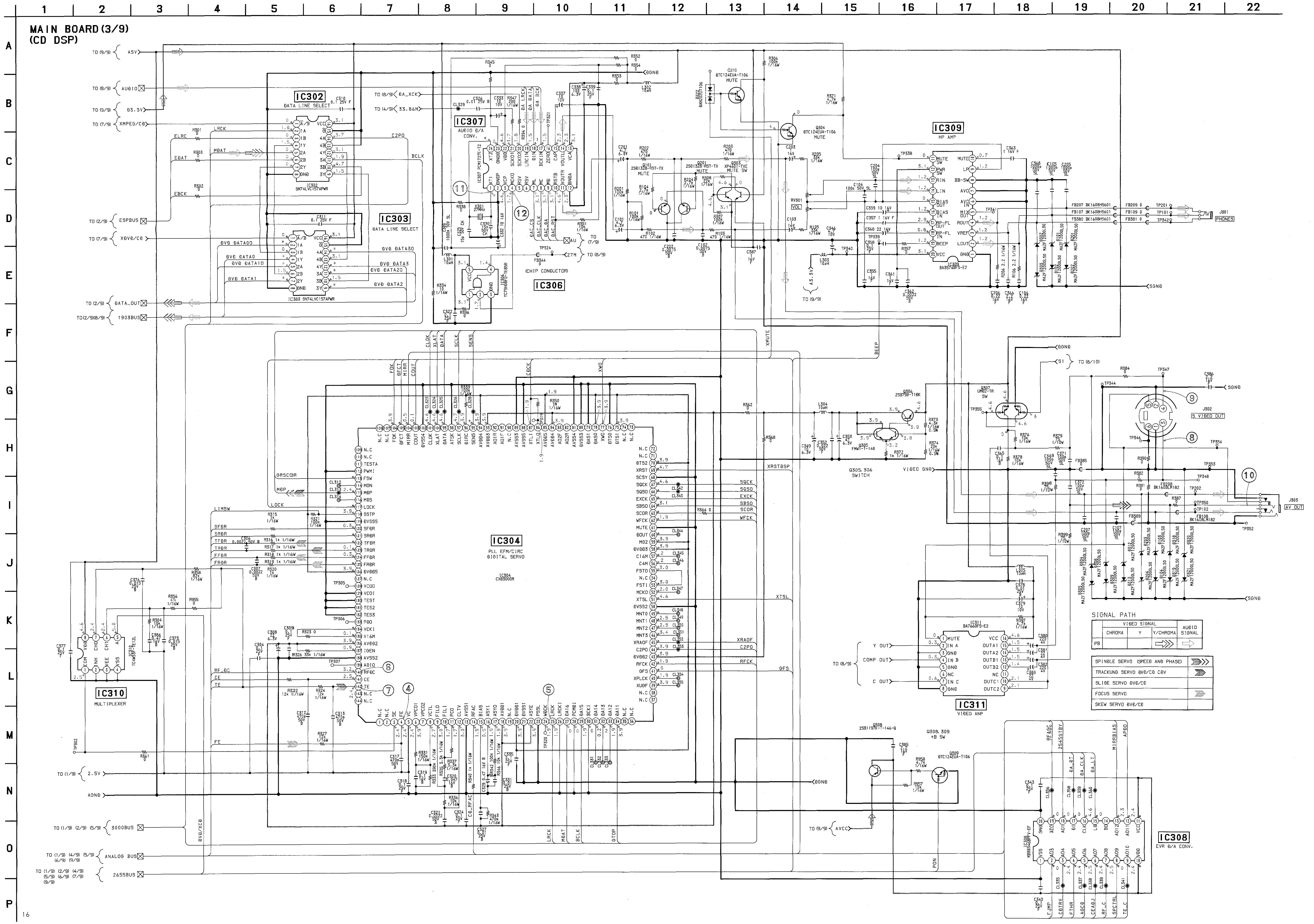




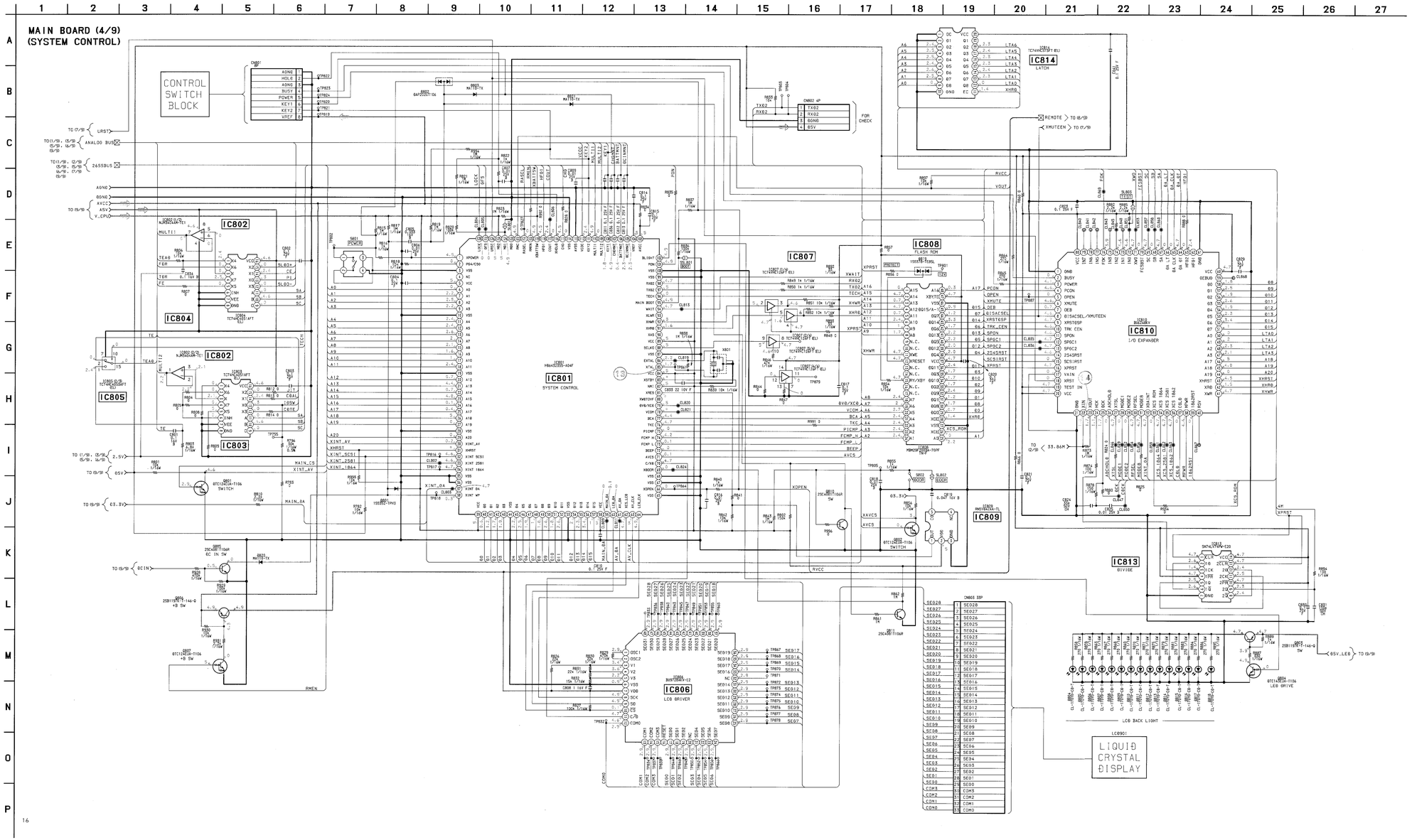
MAIN (CD DSP) SCHEMATIC DIAGRAM

• See page 4-2 for MAIN BOARD printed wiring board.


MAIN BOARD (3/9)
④ IC304 ④ 0.1V/div 1msec/div
⑨ J302 C 1.0V/div 20μsec/div
Not terminated
⑤ IC304 ㉕ 1.0V/div 5μsec/div
⑩ J303 COMP 1.0V/div 20μsec/div
Not terminated
⑥ IC304 ⑭⓪ 0.5V/div 0.1μsec/div
⑪ IC307 ① 0.2V/div 20nsec/div
⑦ IC304 ⑭② 0.5V/div 2msec/div
⑫ IC307 ④ 1.0V/div 20nsec/div
⑧ J302 Y 1.0V/div 20μsec/div
Not terminated

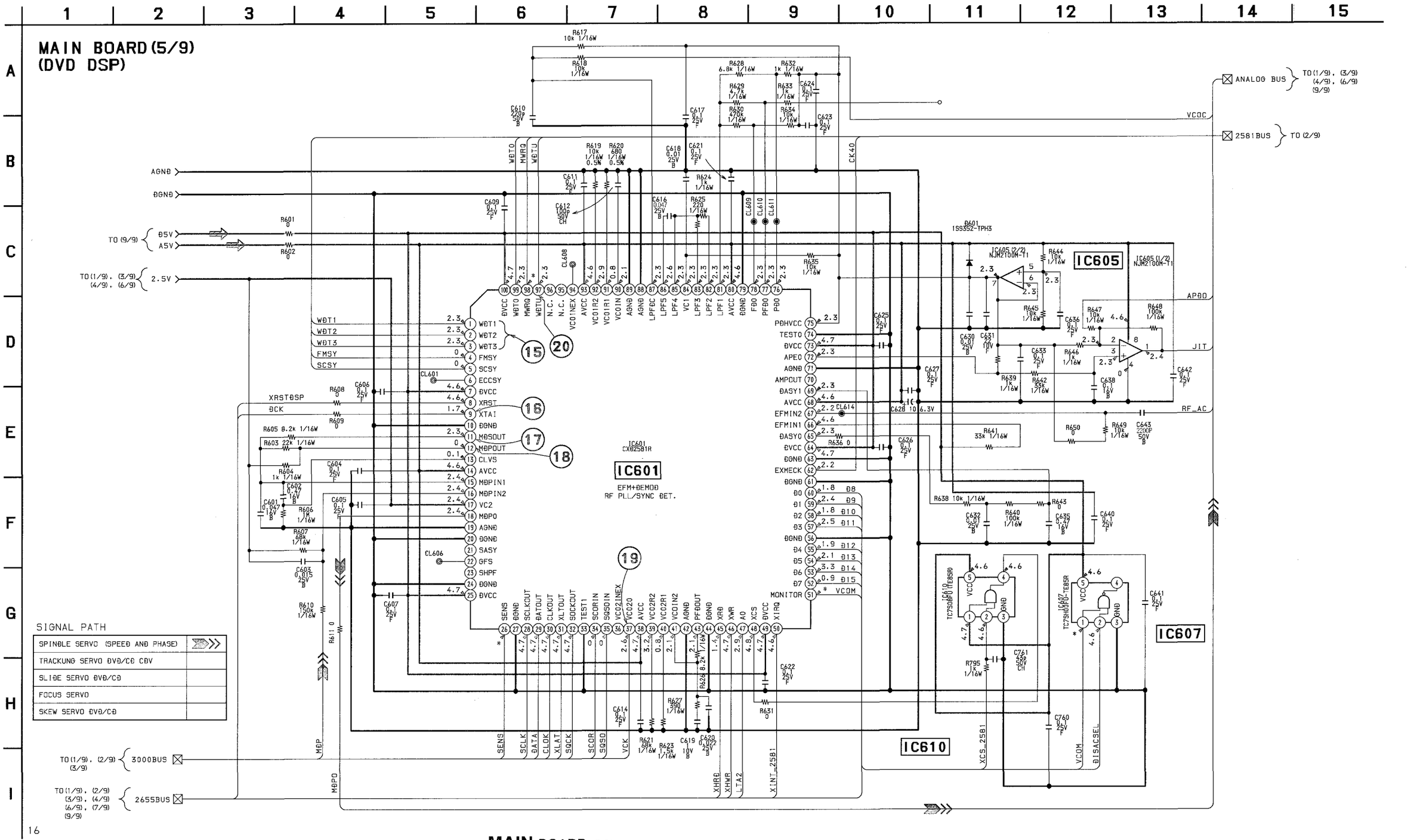

MAIN BOARD (3/9)
(CD DSP)
IC302
DATA LINE SELECT
IC302 SN74LVC157APWR
IC303
DATA LINE SELECT
IC303 SN74LVC157APWR
IC307
AUDIO D/A CONV.
IC307 PCM1727E-T2
IC306
IC306 TC7SH08FU-TE85R
(CHIP CONDUCTOR)
IC309
HP AMP
IC309 BA3574BFS-E2
IC304
PLL EFM/CIRC DIGITAL SERVO
IC304 CXD3000R
IC310
MULTIPLEXER
IC310 TC4W53F-TE12L
IC311
VIDEO AMP
IC311 BA7660FS-E2
IC308
EVR D/A CONV.
IC308 MB88346BPFV-EF
Q305, 306 SWITCH
Q308, 309 +B SW
Q307 UMB2-TR SW
J301 PHONES
J302 S VIDEO OUT
J303 AV OUT
RV301 VOL
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
AUDIO SIGNAL
PB
SPINDLE SERVO (SPEED AND PHASE)
TRACKUNG SERVO DVD/CD CDV
SLIDE SERVO DVD/CD
FOCUS SERVO
SKEW SERVO DVD/CD

MAIN (SYSTEM CONTROL) SCHEMATIC DIAGRAM • See page 4-2 for MAIN BOARD printed wiring board.



MAIN (DVD DSP) SCHEMATIC DIAGRAM • See page 4-2 for MAIN BOARD printed wiring board.

MAIN BOARD (5/9) (DVD DSP)

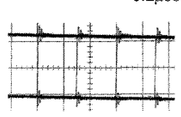
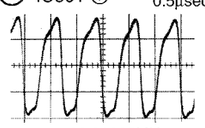
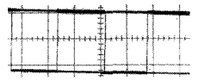
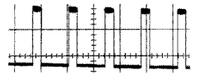
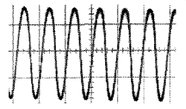
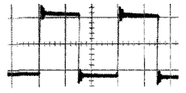


SIGNAL PATH

SPINDLE SERVO (SPEED AND PHASE)	⇒
TRACKING SERVO DVD/CD CDV	
SLIDE SERVO DVD/CD	
FOCUS SERVO	
SKEW SERVO DVD/CD	

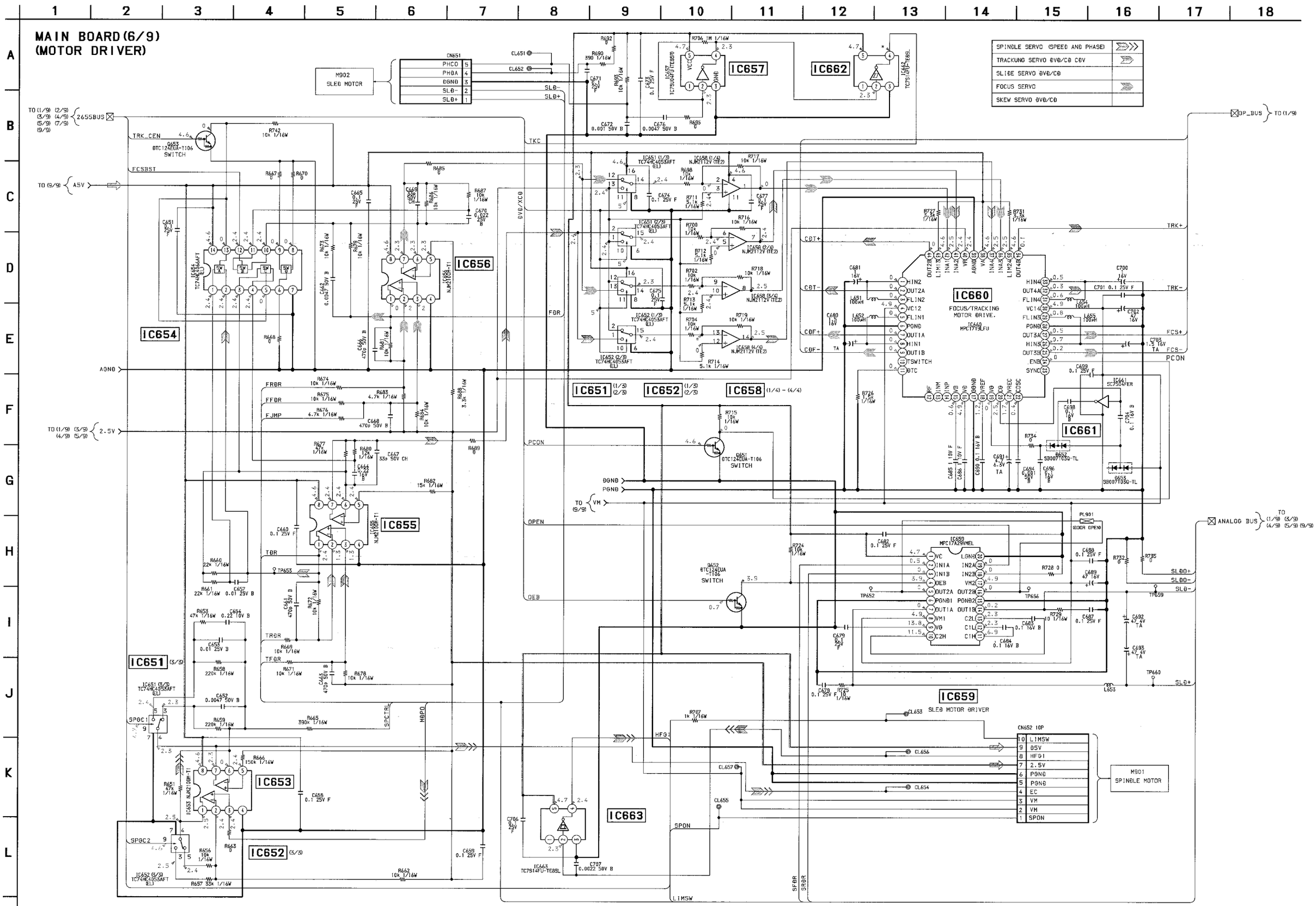
16

MAIN BOARD (5/9)

(15) IC601 ① – ③ 2.0V/div 0.2µsec/div	(16) IC601 ⑨ 1.0V/div 0.5µsec/div	(17) IC601 ⑪ 2.0V/div 0.5µsec/div	(18) IC601 ⑫ 1.0V/div 0.5µsec/div	(19) IC601 ㊲ 2.0V/div 20nsec/div	(20) IC601 ㊾ 2.0V/div 0.2µsec/div
	 33.86835MHz			 53.22MHz	 1.679MHz

MAIN (MOTOR DRIVER) SCHEMATIC DIAGRAM

• See page 4-2 for MAIN BOARD printed wiring board.

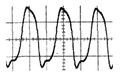


MAIN (AV CONTROL) SCHEMATIC DIAGRAM

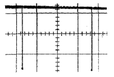
• See page 4-2 for MAIN BOARD printed wiring board.

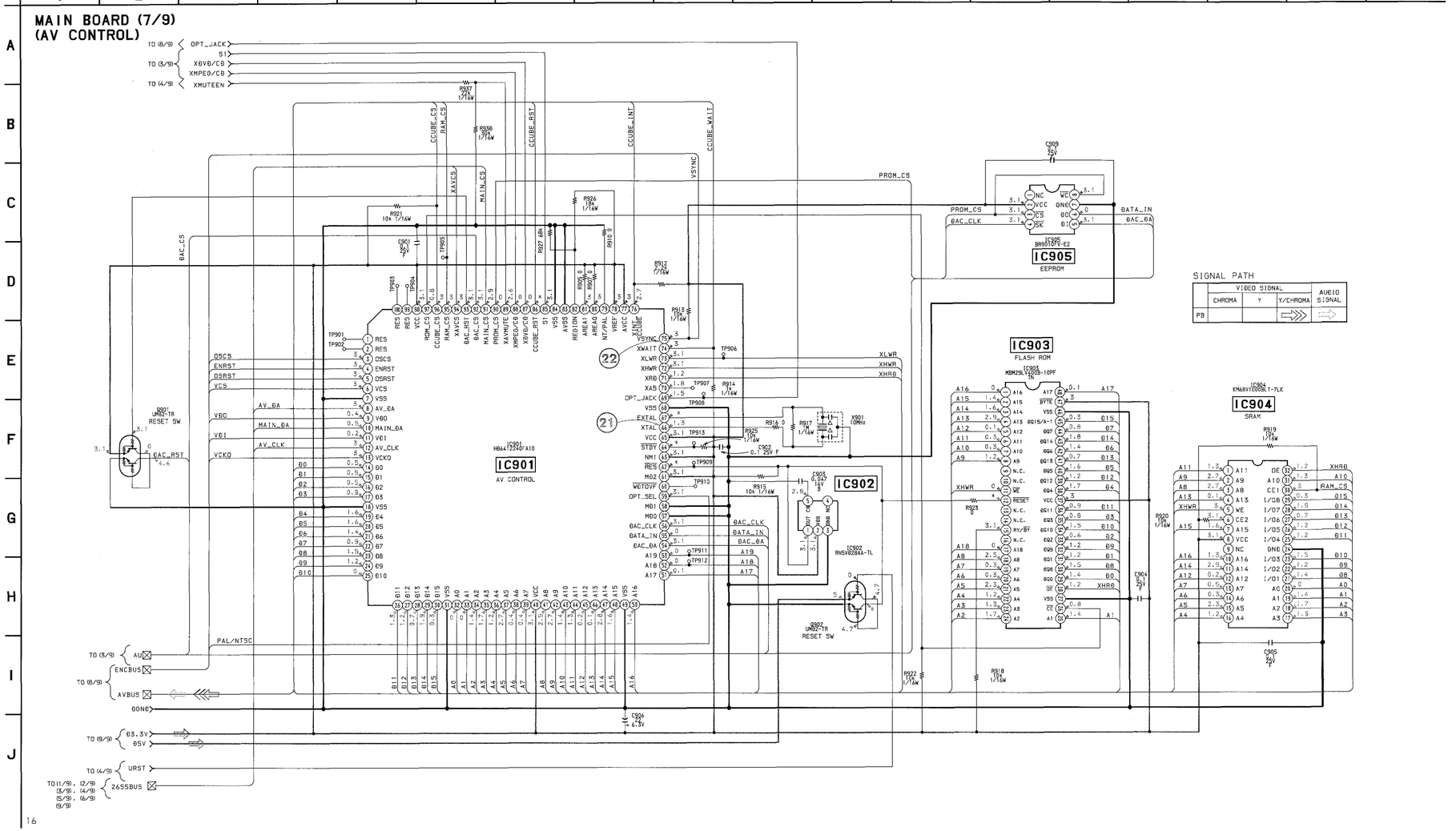
MAIN BOARD (7/9)

21 IC901 66 — 1.0V/div 50nsec/div

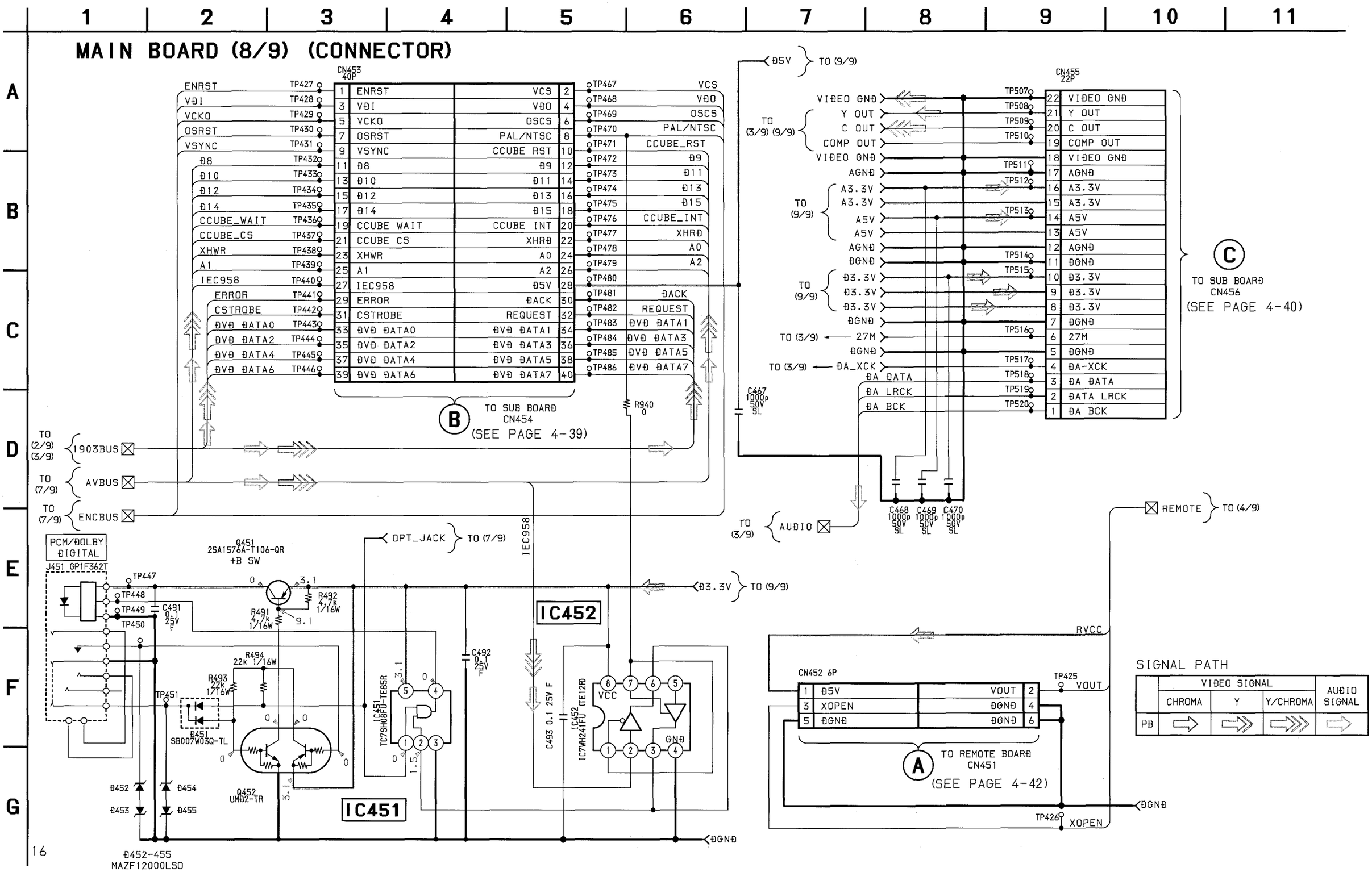


22 IC901 75 — 1.0V/div 5msec/div



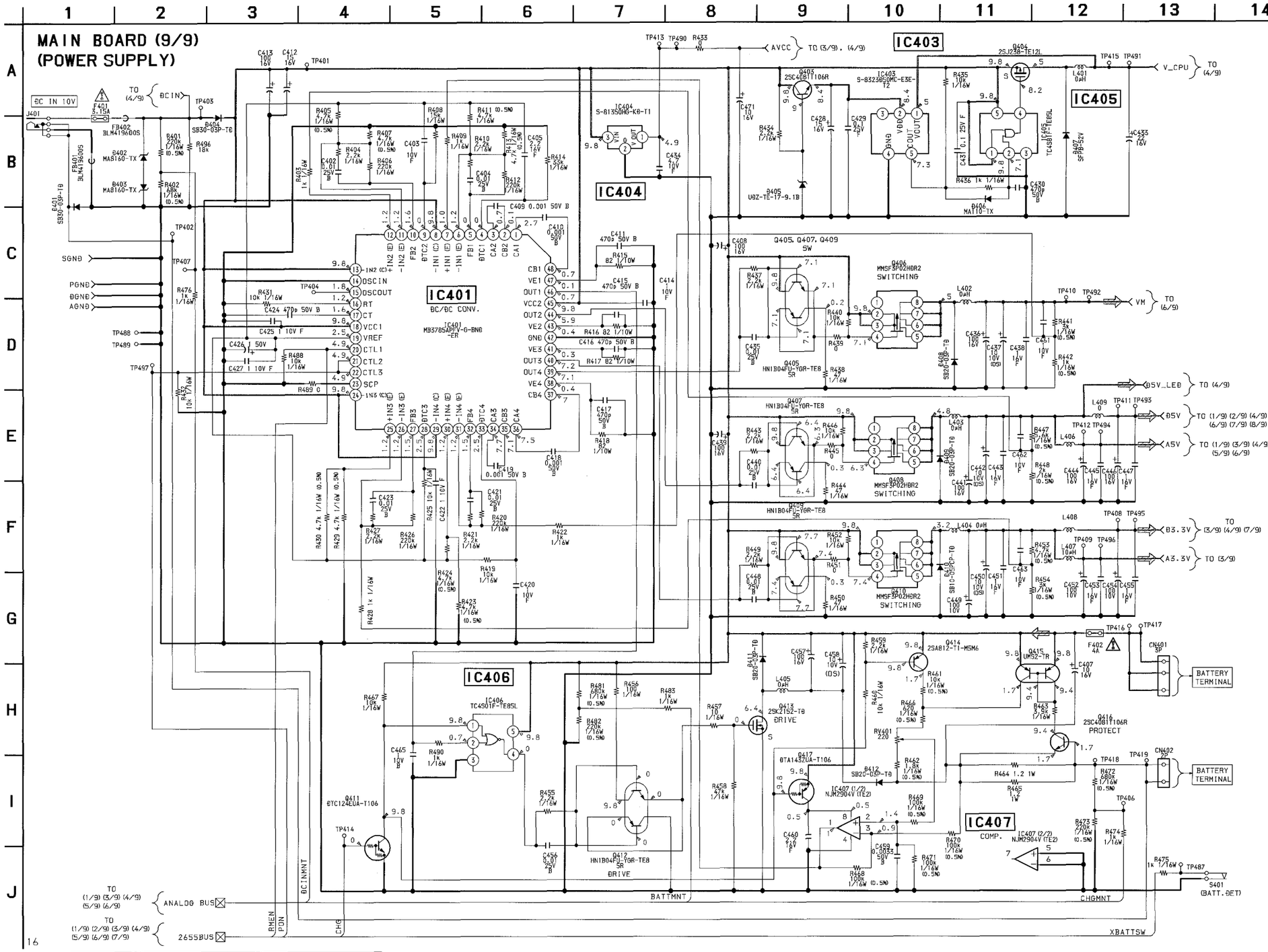


MAIN (CONNECTOR) SCHEMATIC DIAGRAM • See page 4-2 for MAIN BOARD printed wiring board.



MAIN (POWER SUPPLY) SCHEMATIC DIAGRAM

• See page 4-2 for MAIN BOARD printed wiring board.



Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

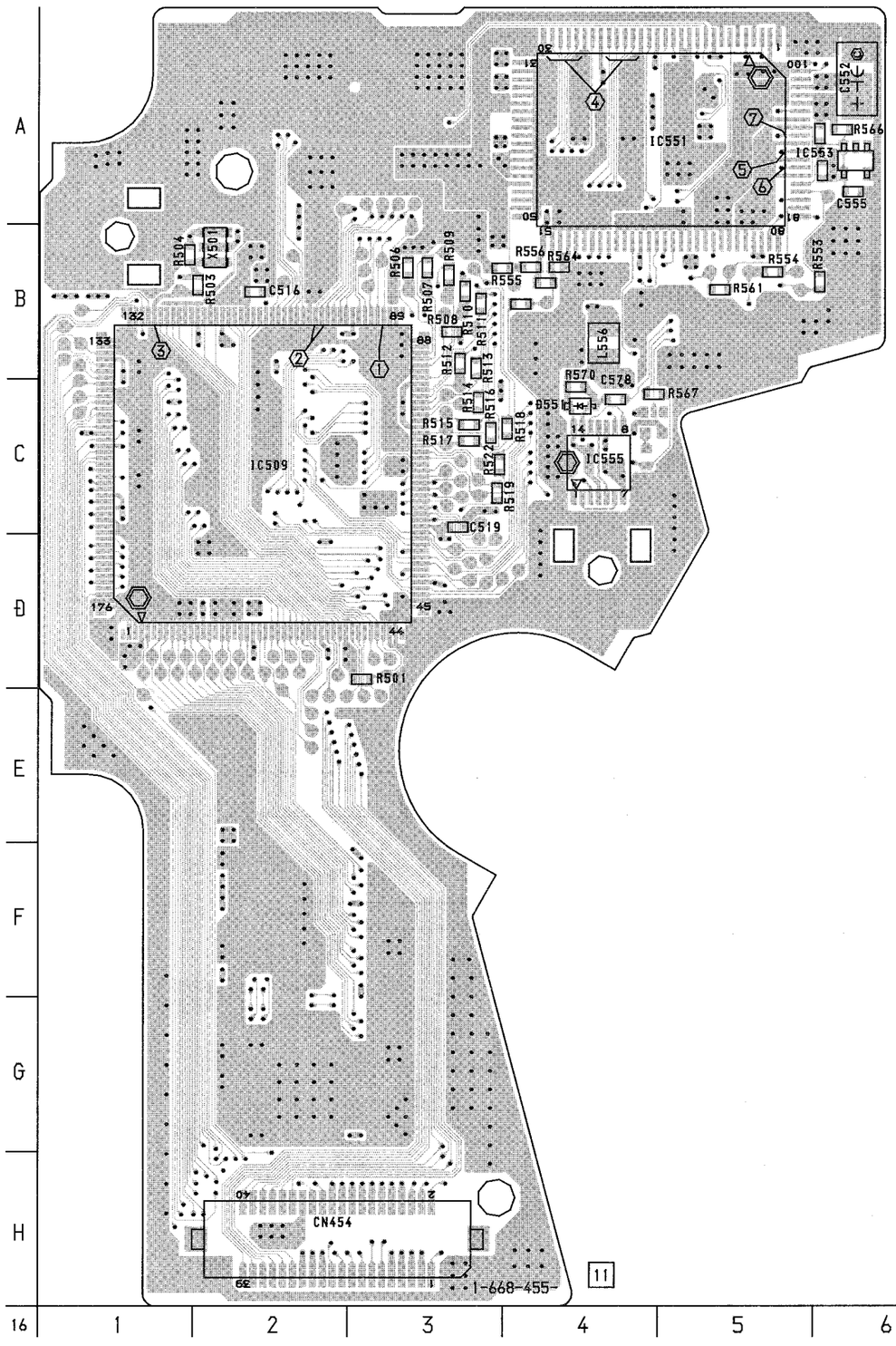
SUB PRINTED WIRING BOARD

There are few cases that the part printed on this diagram isn't mounted in this model.

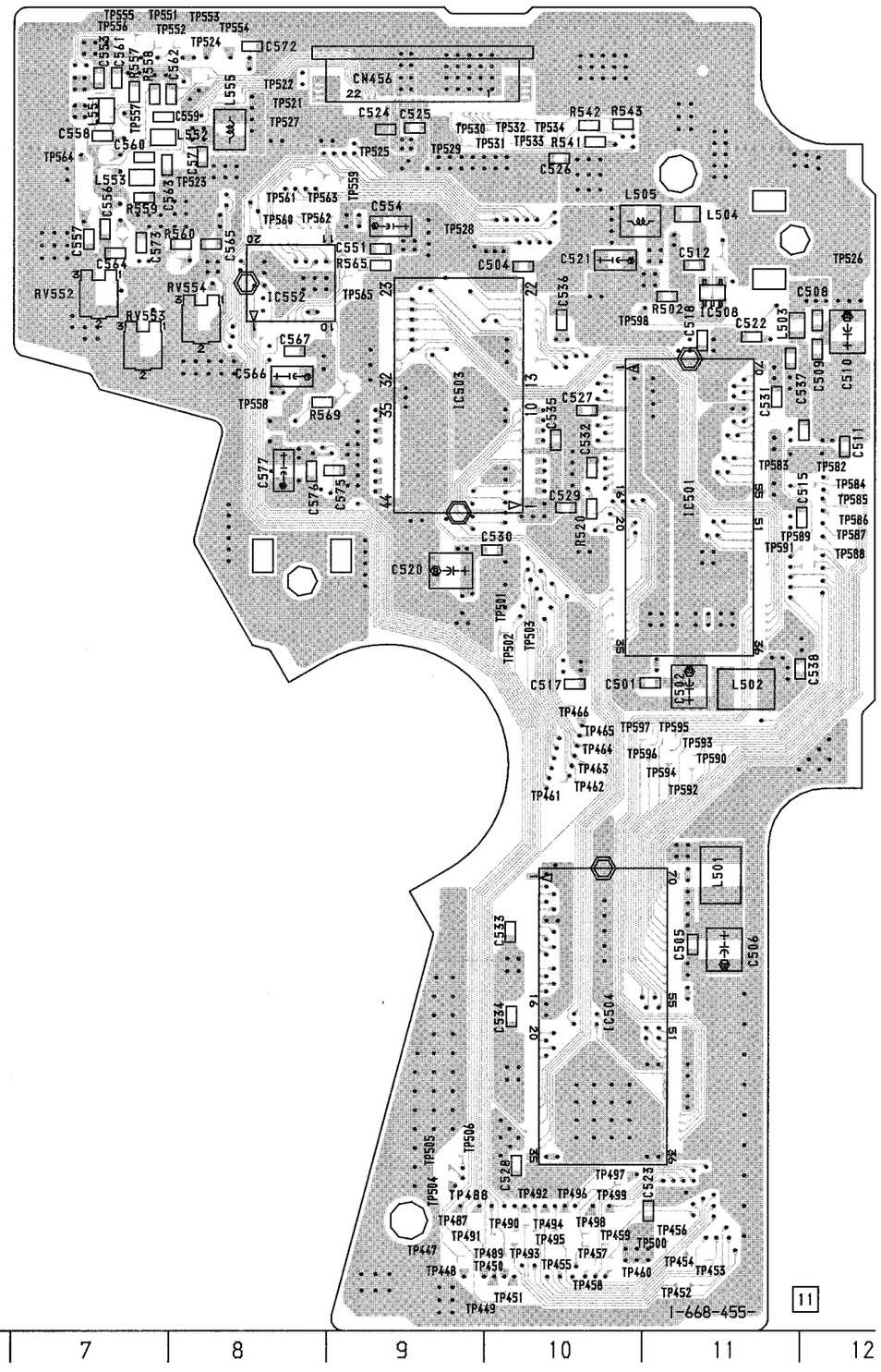
SUB BOARD

CN454	H-2
CN456	A-9
D551	C-4
IC501	C-11
IC503	C-9
IC504	F-10
IC508	B-11
IC509	C-2
IC551	A-4
IC552	B-8
IC553	A-6
IC555	C-4

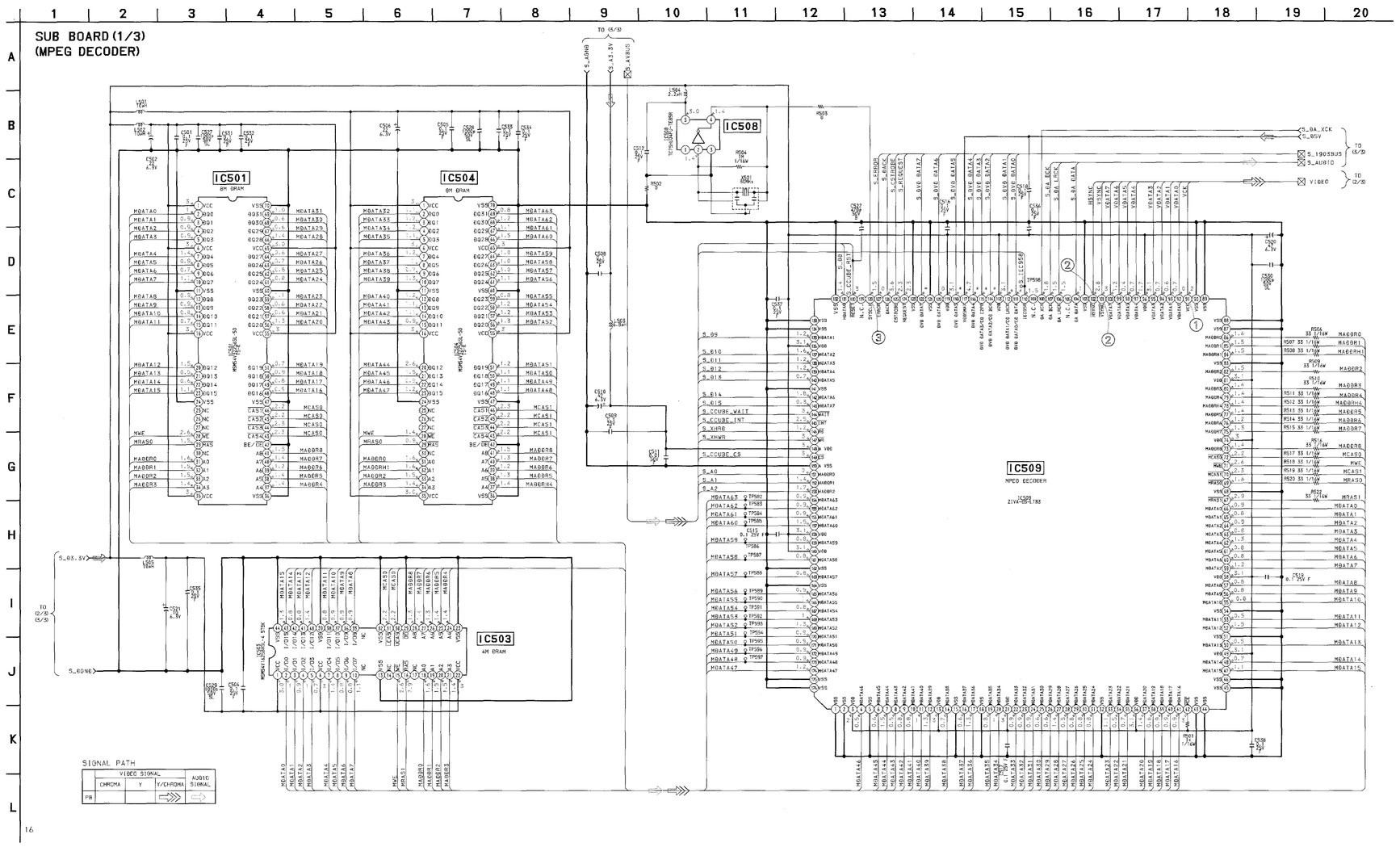
SUB BOARÐ (SIÐE A)



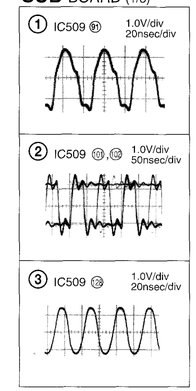
SUB BOARÐ (SIÐE B)



SUB (MPEG DECODER) SCHEMATIC DIAGRAM



SUB BOARD (1/3)

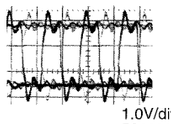


SUB (VIDEO D/A CONVERTER) SCHEMATIC DIAGRAM

• See page 4-31 for SUB BOARD printed wiring board.

SUB BOARD (2/3)

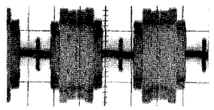
④ IC551 ⑲ – ㉒ , ㉘ – ㉙



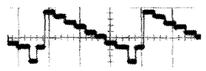
1.0V/div
50nsec/div

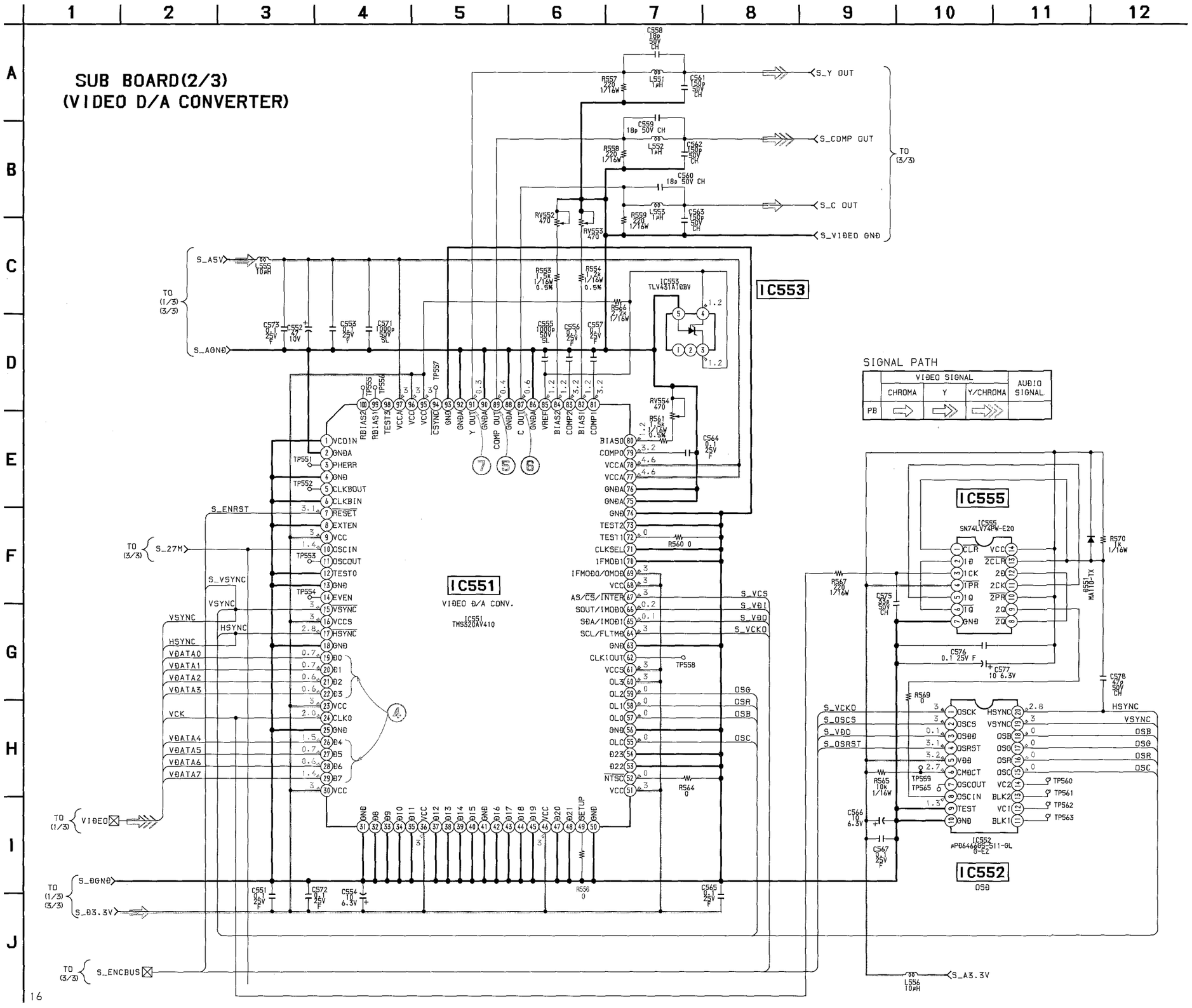
⑤ IC551 ㊽ 0.5V/div 20µsec/div

⑥ IC551 ㊼ 0.2V/div 20µsec/div



⑦ IC551 ㊶ 0.5V/div 20µsec/div



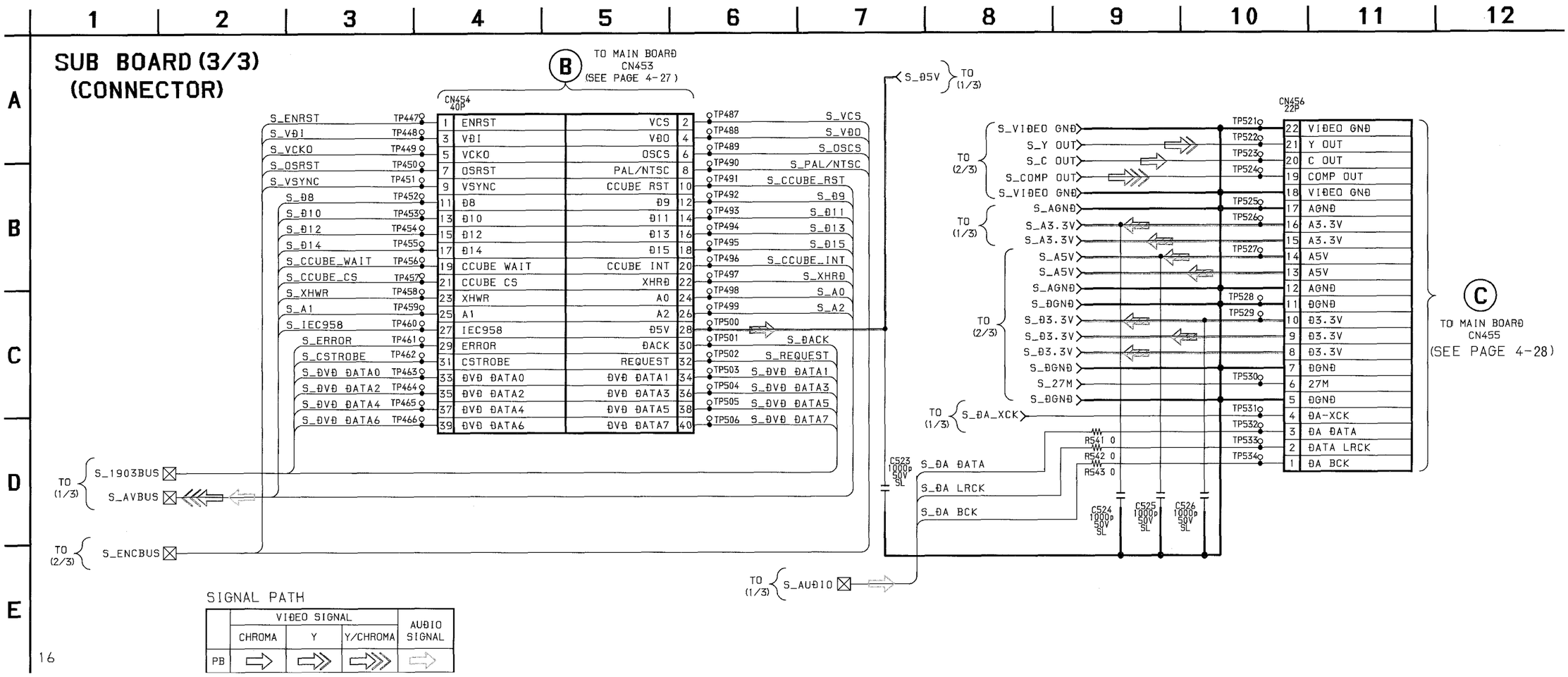


16

VIDEO D/A CONVERTER
SUB (2/3)

SUB (CONNECTOR) SCHEMATIC DIAGRAM

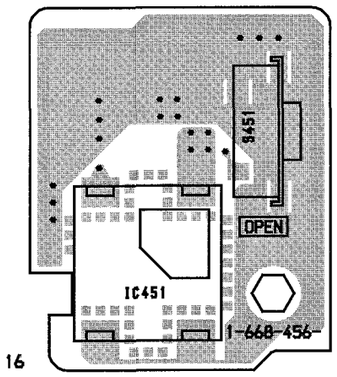
• See page 4-31 for SUB BOARD printed wiring board.


SUB BOARD (3/3)
(CONNECTOR)
B
TO MAIN BOARD
CN453
(SEE PAGE 4-27)
CN454
40P
S_ENRST TP447 1 ENRST VCS 2 TP487 S_VCS
S_VDI TP448 3 VDI VDO 4 TP488 S_VDO
S_VCKO TP449 5 VCKO OSCS 6 TP489 S_OSCS
S_OSRST TP450 7 OSRST PAL/NTSC 8 TP490 S_PAL/NTSC
S_VSYNC TP451 9 VSYNC CCUBE RST 10 TP491 S_CCUBE_RST
S_D8 TP452 11 D8 D9 12 TP492 S_D9
S_D10 TP453 13 D10 D11 14 TP493 S_D11
S_D12 TP454 15 D12 D13 16 TP494 S_D13
S_D14 TP455 17 D14 D15 18 TP495 S_D15
S_CCUBE_WAIT TP456 19 CCUBE WAIT CCUBE INT 20 TP496 S_CCUBE_INT
S_CCUBE_CS TP457 21 CCUBE CS XHRD 22 TP497 S_XHRD
S_XHWR TP458 23 XHWR A0 24 TP498 S_A0
S_A1 TP459 25 A1 A2 26 TP499 S_A2
S_IEC958 TP460 27 IEC958 D5V 28 TP500
S_ERROR TP461 29 ERROR DACK 30 TP501 S_DACK
S_CSTROBE TP462 31 CSTROBE REQUEST 32 TP502 S_REQUEST
S_DVD DATA0 TP463 33 DVD DATA0 DVD DATA1 34 TP503 S_DVD DATA1
S_DVD DATA2 TP464 35 DVD DATA2 DVD DATA3 36 TP504 S_DVD DATA3
S_DVD DATA4 TP465 37 DVD DATA4 DVD DATA5 38 TP505 S_DVD DATA5
S_DVD DATA6 TP466 39 DVD DATA6 DVD DATA7 40 TP506 S_DVD DATA7
S_D5V
TO (1/3)
CN456
22P
TO (2/3)
S_VIDEO GND TP521 22 VIDEO GND
S_Y OUT TP522 21 Y OUT
S_C OUT TP523 20 C OUT
S_COMP OUT TP524 19 COMP OUT
S_VIDEO GND 18 VIDEO GND
TO (1/3)
S_AGND TP525 17 AGND
S_A3.3V TP526 16 A3.3V
S_A3.3V 15 A3.3V
TO (2/3)
S_A5V TP527 14 A5V
S_A5V 13 A5V
S_AGND 12 AGND
S_DGND TP528 11 DGND
S_D3.3V TP529 10 D3.3V
S_D3.3V 9 D3.3V
S_D3.3V 8 D3.3V
S_DGND 7 DGND
S_27M TP530 6 27M
S_DGND 5 DGND
TO (1/3) S_DA_XCK TP531 4 DA-XCK
TP532 3 DA DATA
TP533 2 DATA LRCK
TP534 1 DA BCK
R541 0
R542 0
R543 0
C523 1000P 50V SL
S_DA DATA
S_DA LRCK
S_DA BCK
C524 1000P 50V SL
C525 1000P 50V SL
C526 1000P 50V SL
C
TO MAIN BOARD
CN455
(SEE PAGE 4-28)
TO (1/3) S_1903BUS
S_AVBUS
TO (2/3) S_ENCBUS
TO (1/3) S_AUDIO
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
AUDIO SIGNAL
PB
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E
16

REMOTE PRINTED WIRING BOARD

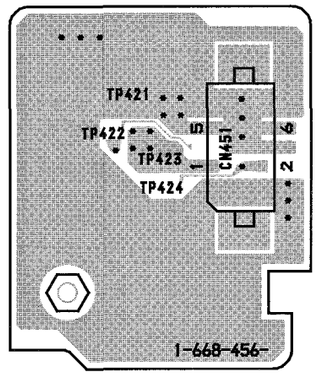
There are few cases that the part printed on this diagram isn't mounted in this model.

REMOTE BOARD
(SIDE A)



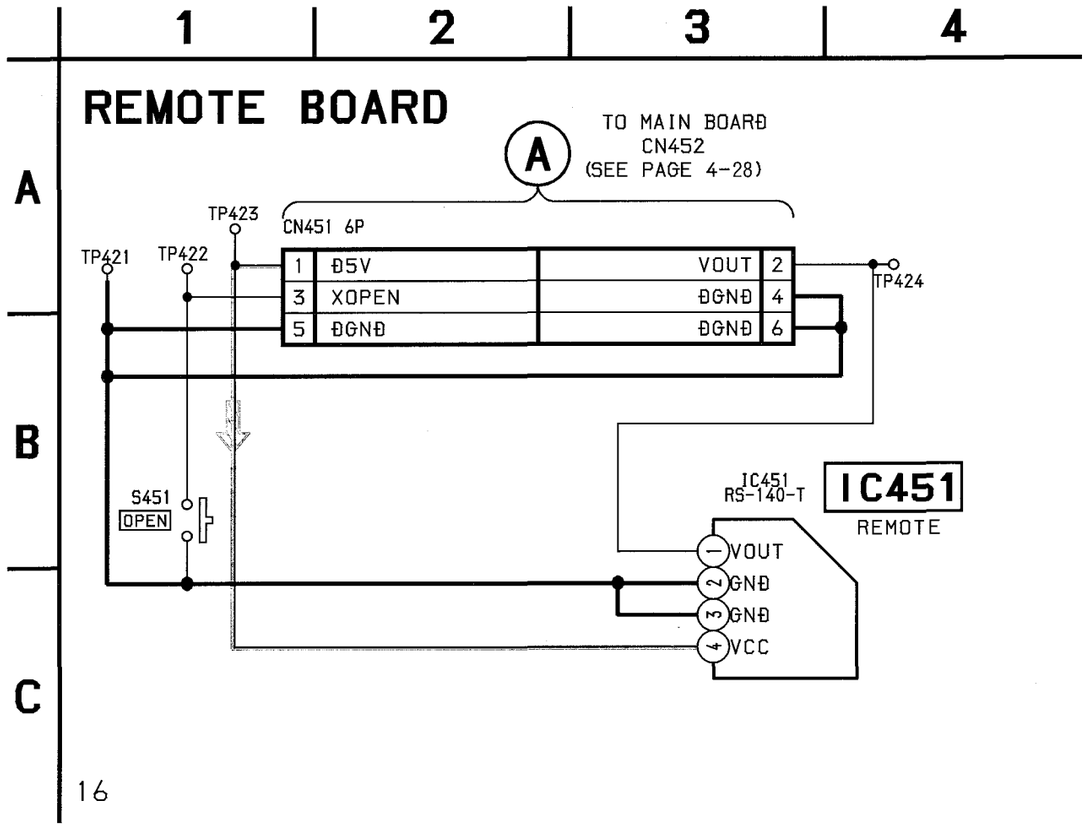
16 11

REMOTE BOARD
(SIDE B)



11

REMOTE SCHEMATIC DIAGRAM



5-1. SYSTEM CONTROL MICON (MAIN BOARD IC801)

Pin No	Pin Name	I/O	Function
1	XPOWER	I	Power switch input L: pressed
2	PG4/CS0	I	Reserved
3	VSS	—	Digital ground
4	—	—	Not connected
5	VCC	—	Digital power supply
6	A0	O	Address bus A0
7	A1	O	Address bus A1
8	A2	O	Address bus A2
9	A3	O	Address bus A3
10	VSS	—	Digital ground
11	A4	O	Address bus A4
12	A5	O	Address bus A5
13	A6	O	Address bus A6
14	A7	O	Address bus A7
15	A8	O	Address bus A8
16	A9	O	Address bus A9
17	A10	O	Address bus A10
18	A11	O	Address bus A11
19	VSS	—	Digital ground
20	A12	O	Address bus A12
21	A13	O	Address bus A13
22	A14	O	Address bus A14
23	A15	O	Address bus A15
24	A16	O	Address bus A16
25	A17	O	Address bus A17
26	A18	O	Address bus A18
27	A19	O	Address bus A19
28	VSS	—	Digital ground
29	A20	O	Address bus A20
30	XINT_AV	I	Interrupt input form AV control L: Active
31	XINT_E	I	Error rate interrupt input
32	XINT_SCSI	I	SCSI controller interrupt input
33	XINT_2581	I	2581 interrupt input
34	XINT_1864	I	1864 interrupt input
35	VSS	—	Digital ground
36	VSS	—	Digital ground
37	XINT_GA	I	Gate array interrupt input
38	XINT_WP	I	Key wake-up interrupt input
39	VCC	—	Digital power supply
40	D0	I/O	Data bus D0
41	D1	I/O	Data bus D1
42	D2	I/O	Data bus D2
43	D3	I/O	Data bus D3
44	VSS	—	Digital ground
45	D4	I/O	Data bus D4
46	D5	I/O	Data bus D5
47	D6	I/O	Data bus D6
48	D7	I/O	Data bus D7
49	D8	I/O	Data bus D8
50	D9	I/O	Data bus D9

Pin No	Pin Name	I/O	Function
51	D10	I/O	Data bus D10
52	D11	I/O	Data bus D11
53	VSS	—	Digital ground
54	D12	I/O	Data bus D12
55	D13	I/O	Data bus D13
56	D14	I/O	Data bus D14
57	D15	I/O	Data bus D15
58	VCC	—	Digital power supply
59	MAIN_DA	O	AV control SIO data output
60	LCD_DA	O	LCD driver SIO data output
61	AV_DA	I	AV control SIO data input
62	XCS_LCD	O	LCD driver CS output
63	AV_CLK	O	AV control SIO clock output
64	LCD_CLK	O	LCD driver SIO clock output
65	VSS	—	Digital ground
66	XOPEN	I	OPEN key input L: ON (pressed)
67	VSS	—	Digital ground
68	VSS	—	Digital ground
69	XDCCR	I	OPEN/CLOSE detection input H: Open, L: Close
70	C/XD	O	LCD driver H: Command, L: Data
71	AVCS	O	AV control chipelect output H: Select
72	BEEP	O	Headphones beep 3.5 kHz
73	FCMP_L	I	Focus window comparater L
74	FCMP_H	I	Focus window comparater H
75	PICMP	I	Pull-in comparater
76	TWOB	O	Tracking wobbling output (There is a possibility to use this signal.)
77	BCA	I	BCA pulse
78	VCOM	I	Connected to CXD2581 monitor terminal
79	DVD/XCD	O	DVD/CD selectin output H: DVD, L: CD
80	XWDTOVF	O	Not connected
81	XRES	I	Hardware reset input
82	NMI	I	NMI interrupt I: Fixed
83	XSTBY	I	Hardware standy input
84	VCC	—	Digital power supply
85	XTAL	O	Clock output
86	EXTAL	I	Clock input
87	VSS	—	Digital ground
88	SCLKO	O	System clock output, initial output
89	VCC	—	Digital power supply
90	XAS	O	AS
91	XHRD	O	RD
92	XHWR	O	HWR
93	XLWR	O	LWR
94	XWAIT	I	WAIT
95	MAIN_BOOT	I	Main/boot mode switch
96	TECH	O	Selecting A/D input from TE L: DC, H: AC
97	TXD2	O	SCI data output for jig
98	RXD2	I	SCI data input for jig
99	VSS	—	Digital ground
100	VSS	—	Digital ground

Pin No.	Pin Name	I/O	Function
101	PON	O	Power ON/OFF control H ON, L OFF
102	BLIGHT	O	Backlight ON/OFF control H ON, L OFF
103	AVCC	—	Analog power supply
104	VREF	—	A/D converter reference voltage
105	DCINMNT	I	DC IN monitor
106	BATTMNT	I	BATT monitor
107	JIT	I	DVD jitter input
108	KEY1	I	A/D key input 1
109	MULTI2	I	Multiplexer 2 input
110	MULTI1	I	Multiplexer 1 input
111	KEY2	I	A/D key input 2
112	VCOC	O	VCO control output
113	AVSS	—	Analog ground
114	VSS	—	Digital ground
115	CHG	O	Charging control H ON, L OFF
116	XHOLD	I	Hold switch input H Normal, L Hold
117	COUT	I	C OUT
118	HFGI	I	Spindle FG input 1 rotation per 6 pulses
119	XBATTSW	I	Battery detection switch H NO, L YES
120	TKC	I	Detection input of number of sled rotations Moved distance of sled per one pulse, 66 um
121	RASEL	O	Selection of either REQ or ACK of D1864 H SCSI, L ZIVA
122	RMC	I	Remote control input
123	MD0	I	Mode setting "L"
124	MD1	I	Mode setting "H"
125	MD2	I	Mode setting "H"
126	URST	O	Reset output to AV control L Reset
127	GFS	I	CD GFS input
128	LOCK	I	CD LOCK input

5-2. A/V CONTROL MICON (MAIN BOARD IC901)

Pin.No	Pin Name	I/O	Function
1	RES	—	
2	RES	—	
3	OSCS	O	OSD chip select output
4	ENRST	O	ENC reset output
5	P16/OSRST	O	OSD reset output
6	P17/VCS	O	Video encoder chip select output
7	VSS	—	Digital ground
8	TXD0/AV_DA	O	Main microprocessor serial data output
9	TXD1/VDO	O	Video encoder/OSD serial data clock
10	RXD0/MAIN_DA	I	Main microprocessor serial data output
11	RXD1/VD1	I	Video encoder/OSD serial data output
12	SCK0/SCK2	I	Main microprocessor serial clock input
13	SCK1/VCKO	O	Video encoder/OSD serial cock output
14	D0	I/O	Data bus D0
15	D1	I/O	Data bus D 1
16	D2	I/O	Data bus D2
17	D3	I/O	Data bus D3
18	VSS	—	Digital ground
19	D4	I/O	Data bus D4
20	D5	I/O	Data bus D5
21	D6	I/O	Data bus D6
22	D7	I/O	Data bus D7
23	D8	I/O	Data bus D8
24	D9	I/O	Data bus D9
25	D10	I/O	Data bus D10
26	D11	I/O	Data bus D11
27	D12	I/O	Data bus D12
28	D13	I/O	Data bus D13
29	D14	I/O	Data bus D14
30	D15	I/O	Data bus D15
31	VSS	—	Digital ground
12	A0	0	Address bus A0
1331	Al	0	Address bus A1
34	A2	0	Address bus A2
35	A3	0	Address bus A3
36	A4	0	Address bus A4
37	A5	0	Address bus A5
38	A6	O	Address bus A6
39	A7	O	Address bus A7
40	VCC	—	Digital power supply
41	A8	O	Address bus A8
42	A9	O	Address bus A9
43	A10	O	Address bus A10
44	A11	O	Address bus A11
45	A12	O	Address bus A12
46	A13	O	Address bus A13
47	A14	O	Address bus A14
48	A15	O	Address bus A15
49	VSS	—	Digital ground
50	A16	O	Address bus A16

Pm No	Pm Name	I/O	Function
51	A17	O	Address bus A17
52	A18	O	Address bus A18
53	A19	O	Address bus A19
54	DAC_DA	O	Audio DAC serial data output
55	DAC_SC	I	Audio DAC chip select output
56	DAC_CLK	O	Audio DAC serial clock output
57	MD0	I	Mode 4 L Fixed
58	MD1	I	Mode 4 L Fixed
59	XNT/PAL_O	O	Video encoder NTSC/PAL selection output (NTSC L PAL H)
60	XWDTOVF	O	Watch dog timer overflow output
61	MD2	I	Mode 4 L Fixed
62	XRST	I	Reset input
63	NMI	I	NMI input H Fined
64	XSTBY	I	Hardware standby input H Fixed
65	VCC	—	Digital power supply
66	XTAL	—	External oscillator is connected to this terminal
67	EXTAL	—	External oscillator is connected to this terminal
68	vss	—	Digital ground
69	PF7	—	
70	XAS	O	AS output
71	XRD	O	RD output
72	XHWR	O	HWR output
73	XLWR	O	LWR output
74	XWAIT	I	WAIT output 1903, CCube
75	IRQ1/XINT_1903	I	V sync input
76	IRQ2/XINT_CCUBE	I	CCUBE interruption input
77	AVCC	—	Analog power supply
78	VREF		
79	NT/PAL	I	NTSC/PAL selector switch input (NTSC L. PAL H)
80	AREA0	I	Destination identification input 0
81	AREA1	I	Destination identification input 1
82	REGION	I	Region code identification input
83	AVSS		Analog ground
84	vss		Digital ground
85	SJOUT	0	S-terminal SJ mode ON/OFF terminal (SJ H, Normal L)
86	CCUBE_RST	0	CCUBE reset
87	XDVD/CD	0	DVD and video CD selection (DVD L, Video CD H)
88	XMPEG/CD	0	MPEG Audio and CD-DA selection (MPEG L CD-DA H)
89	JACK		Jack insertion detection
90	XENC_STOP	0	Video encoder clock ON/OFF (ON H, OFF L)
91	MAIN/CS	0	Chip select output for main microprocessor
92	CCUBE_STOP	0	MPEG decoder clock ON/OFF (ON H OFF L)
93	DAC-RST	0	Audio DAC reset output
94	XAVCS	I	Chip select for serial communication with main microprocessor
95	RAM_CS	0	CS of S_RAM
96	CS1/CCUBE_CS	0	CCUBE chip select output
97	CS0/ROM c s	0	RAM chip select output
98	vcc		Digital power supply
99	RES		
100	RES		

SECTION 6
SELF-DIAGNOSIS FUNCTION

■ What is the Self-Diagnosis Function?

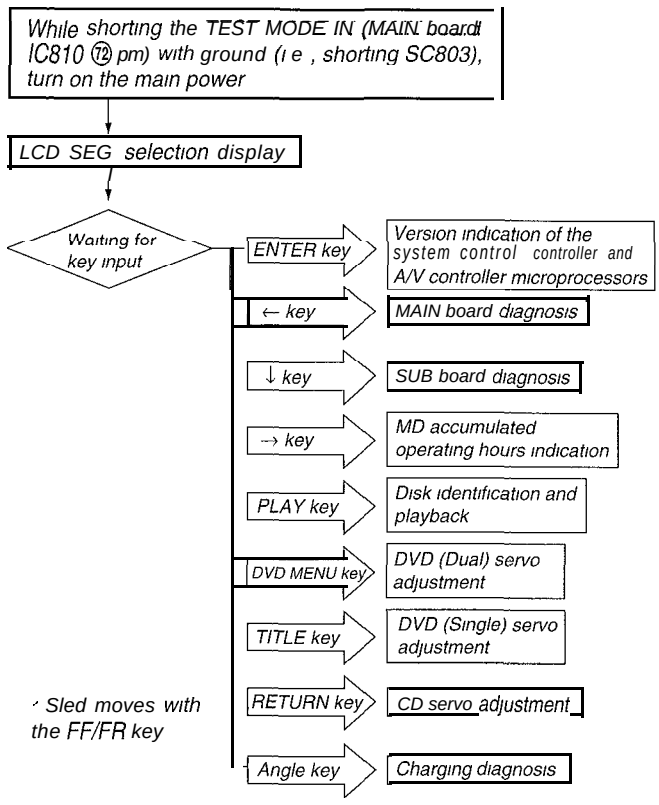
When an error that the microprocessor can Judge, occurs during normal playback, this function shows an error code on LCD or OSD (on-screen display) to help operator Judge what is happenmg in the machine There are two types of error code as shown below

When the error can be solved by users C**
When the error requires repair work by serviceengineer E****

* When the error is related to media (DVD disc or CD disc)
When an error occurs due to defective media, the error code C** is displayed instead of the error code E****. For the specific E**** code errors (i e., servo related errors etc.,) that are caused by external reasons such as defective disc or the like, but not caused by the machine itself, these errors are displayed by the C** code, not the E**** code This is done in order to prevent user brmgmg the machine mto service station by mistake when an error is caused by media and the machine does not have an error. The specific E**** code errors that can be Judged as the hardware errors without question, are displayed in the same way as the C** code

■ What is Diagnosis?

This is the hardware check function for the prmted wiring boards to be mainly used in the assembly lme of the production factory Connection of the A/V control microprocessor with individual device, and communication are checked The diagnosis is effective in the repair services too


While shorting the TEST MODE IN (MAIN board IC810 ⑫ pm) with ground (i e , shorting SC803), turn on the main power
LCD SEG selection display
Waiting for key input
ENTER key
Version indication of the system control controller and A/V controller microprocessors
← key
MAIN board diagnosis
↓ key
SUB board diagnosis
→ key
MD accumulated operating hours indication
PLAY key
Disk identification and playback
DVD MENU key
DVD (Dual) servo adjustment
TITLE key
DVD (Single) servo adjustment
RETURN key
CD servo adjustment
Angle key
Charging diagnosis
· Sled moves with the FF/FR key

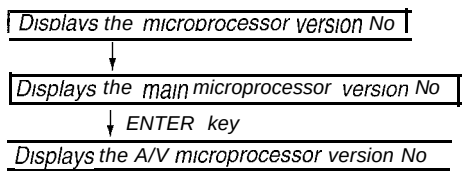
Self-diagnosis function

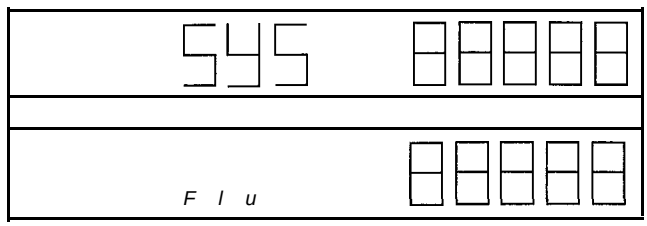
This function displays the player's condition with three or five digits (a combination of the alphabet and numbers) on the TV screen or in the front panel display If this occurs, check the following code chart

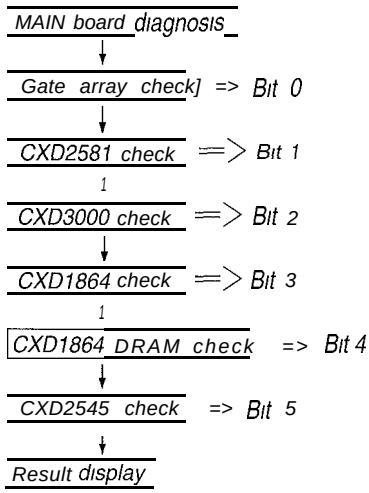
Code number	Means	DO
C01	The battery pack is fully consumed	Connect the AC power adapter to recharge
co5	The AC power adapter has a problem	Connect the supplied AC power adapter firmly If the code number is still displayed, see page 66
C13	. The disc is dirty . The player cannot play the disc	. Clean the disc with a soft cloth (page b3) . Make sure that the disc is compatible (page 4)
E X X X X (XXXX are optional numbers)	To prevent a malfunction, the self-decision function is working	Please contact your Sony dealer and present the five digits number displayed Example E0002

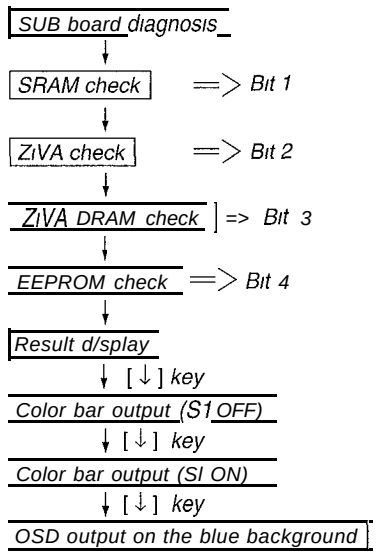
<E code list>

- E0002 Checksum error of the frash ROM in system controller
  → Write again in the frash ROM
- El002 Serial communication error between system controller and A/V controller.
  → Check the three bus lines AV_DA, MAIN-DA and AV_CLK.

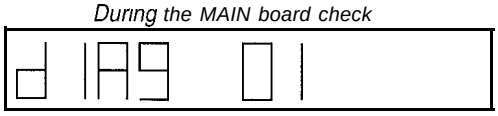

Displays the microprocessor version No
Displays the main microprocessor version No
ENTER key
Displays the A/V microprocessor version No



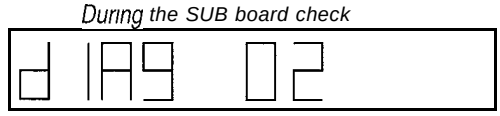

MAIN board diagnosis
Gate array check] => Bit 0
CXD2581 check => Bit 1
CXD3000 check => Bit 2
CXD1864 check => Bit 3
CXD1864 DRAM check => Bit 4
CXD2545 check => Bit 5
Result display


SUB board diagnosis
SRAM check => Bit 1
ZiVA check => Bit 2
ZiVA DRAM check => Bit 3
EEPROM check => Bit 4
Result d/splay
[↓] key
Color bar output (S1 OFF)
[↓] key
Color bar output (SI ON)
[↓] key
OSD output on the blue background

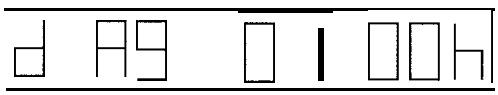
During the MAIN board check



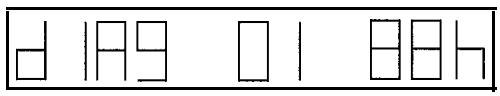
During the SUB board check



When diagnosis is completed



When error occurs



*) When the diagnosis ends with NG, an error information will be displayed

- **Error code**

MAIN board diagnosis
Displays "dIAg 01-Xxh" on the LCD

XXh Bit 5 CXD2545 is checked NG
Bit 4 . CXDl846 DRAM is checked NG
Bit 3 CXDl846 is checked NG
Bit 2 . CXD30000 is checked NG
Bit 1 CXD 2581 is checked NG
Bit 0 . Gate array is checked NG

*) In the case NG, the above described respective bits become "1".

SUB board diagnosis
Displays "dIAg 02-Xxh" on the LCD

XXh Bit 4 . EEPROM is checked NG
Bit 3 ZiVA DRAM is checked NG
Bit 2 ZiVA is checked NG
Bit 1 SRAM is checked NG

*) In the case NG, the above described respective bits become "1"

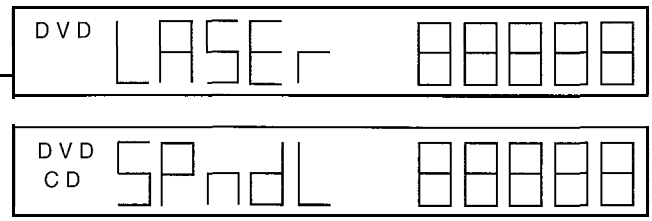
MD accumulated operating hours indication

↓

DVD laser accumulated output hours indication

↓ [→] key

Spindle accumulated rotation hours indication



*) When the CLEAR button (of remote control) is pressed during hours display, the hours data on the display are cleared by reset

Disk identification and playback

↓

Disk identification

↓

Displays the identification result

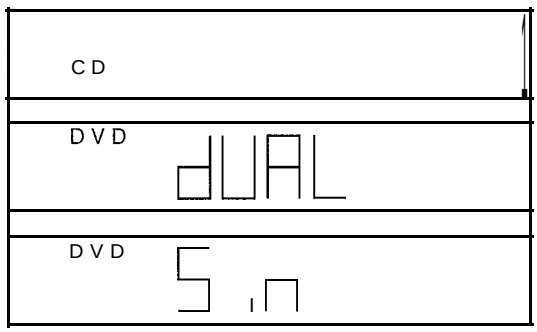
↓ PLAY key

Continous uninterruptible play back

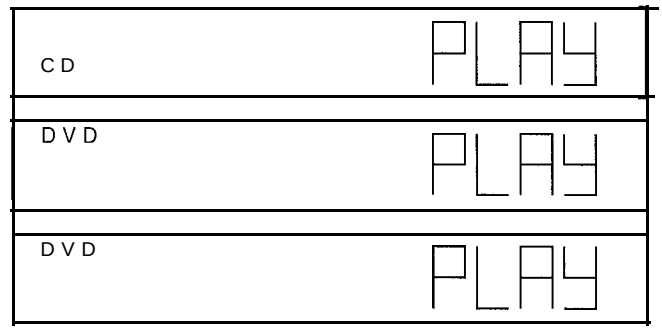
*) Playback of the Video CD and DVD video is possible
Cannot playback the music CD

*) SLED moves with the FF/FR key
Returns to the initial state waiting for key input with the STOP key

Identification Result



During playback



DVD (Dual) Servo Adjustment

↓ Set the test disk (HLX-501)

↓ DVD MENU key

LD ON (→ Laser power measurement and correct/on)

↓ DVD MENU key

FCS ON (→ TRK OFF, SLED OFF, CL V coarse servo)

↓ DVD MENU key

Traverse automat/c adjustment (→ Displays the adjustment value)

↓ DVD MENU key

TRKON, SLED ON, CLV-N x 1

↓

FG, TG automatic adjustment (→ Displays the adjustment value)

↓ DVD MENU key

F Bias automat/c adjustment (→ Displays the adjustment value)

↓ DVD MENU key

Confirmation of RF /eve/ and jitter value

↓ DVD MENU key

Confirmation of error rate

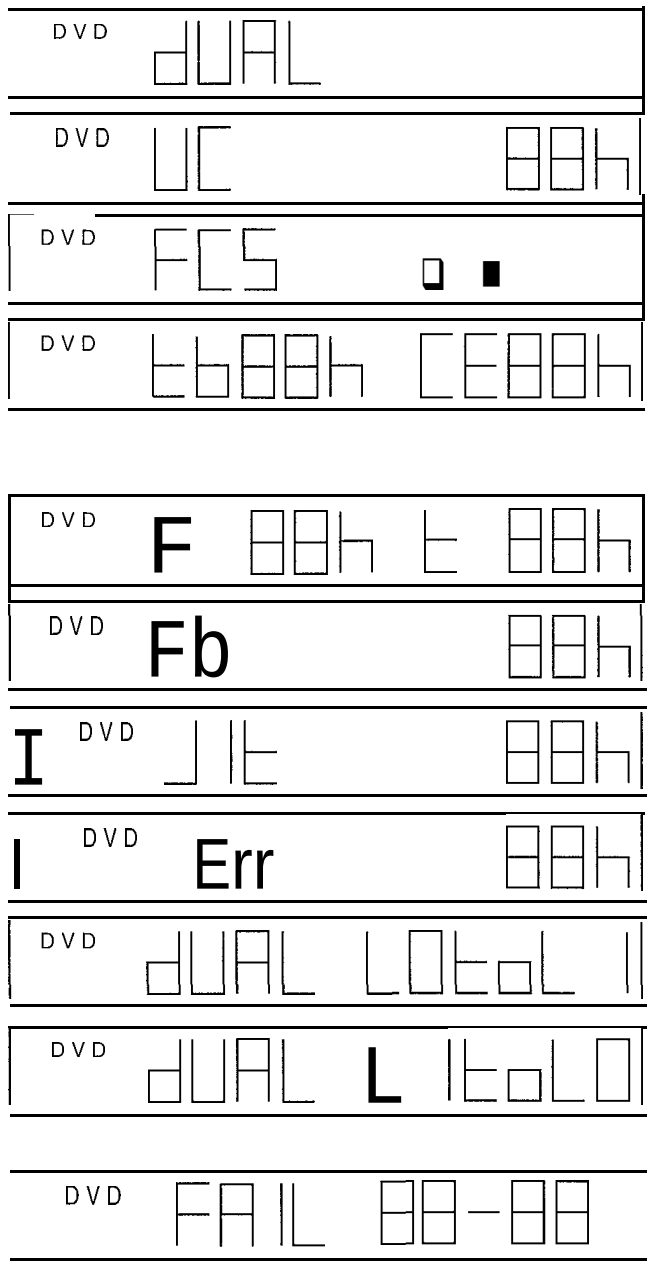
↓ DVD MENU key

Focus jump LO → L 1

↓ DVD MENU key

Focus jump L 1 → LO

*) Sled moves with the FF/FR key
Returns to the initial state of waiting for key input with the STOP key



- **Error Code**

Durmg the DVD dual servo adjustment

01-01 FCS ON NC
02-01 Center error automatic adjustment NG
02-02 Traverse automatic adjustment NG
03-01 TRK ON NG
03-02 SLD ON NC
03-03 FG automatic adjustment NG
03-04 TG automatic adjustment NG
04-0 1 FCS bias automatic adjustment NG
05-01 Jitter value measurement NG
06-01 Error rate measurement NG
07-01 . FCS Jump (Layer 0 Å® 1) NG
OS-01 FCS Jump (Layer 1 Å® 0) NG

DVD (Single) Servo Adjustment

Set the test disk (HLX-503)

↓ TITLE key

LD ON (→ Laser power measurement and correct/on)

↓ TITLE key

FCS ON (→ TRK OFF, SLED OFF, CLV coarse servo)

↓ TITLE kev

Traverse automat/c adjustment (→ Displays the adjustment value)

↓ TITLE key

TRK ON, SLED ON, CL V-N x I

↓

FG, TG automatic adjustment (→ Displays the adjustment value)

↓ TITLE key

F Bias automat/c adjustment (→ D/splays the adjustment value)

↓ TITLE key

Confirm the RF level. utter value

↓ TITLE key

Confirm error rate

) SLED moves with the FF/FR key
Returns to the initial state waiting for key input with the STOP key

- **Error Code**

Durmg the DVD single servo adjustment

01-01 FCS ON NG
02-01 Center error automatic adjustment NG
02-02 Traverse automatic adjustment NG
03-0 1 TRK ON NG
03-02 SLD ON NG
03-03 FG automatic adjustment NG
03-04 TG automatic adjustment NG
04-O l FCS bias automatic adjustment NG
05-01 Jitter value measurement NG
06-01 Error rate measurement NG

CD Servo Adjustment

↓ Set the test disk (TGR-21)

↓ RETURN key

LD ON (→ Laser power measurement, correct/on)

↓ RETURN kev

FCS ON (→ TRK OFF, SLED OFF, CL V coarse servo)

↓ RETURN kev

A/L adjustment, traverse automat/c adjustment (→ Displays the adjustment value)

↓ RETURN key

TRKON, SLED ON, CLV-N x 1

↓

FG, TG automatic adjustment (→ D/splays the adjustment value)

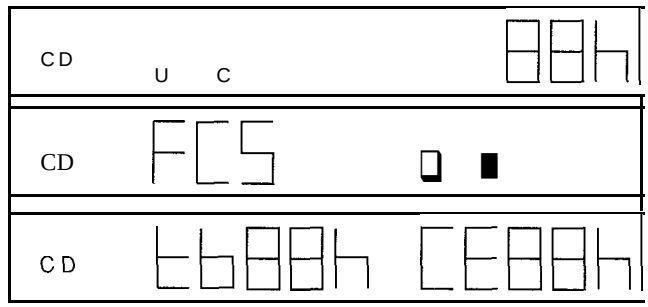
↓ RETURN key

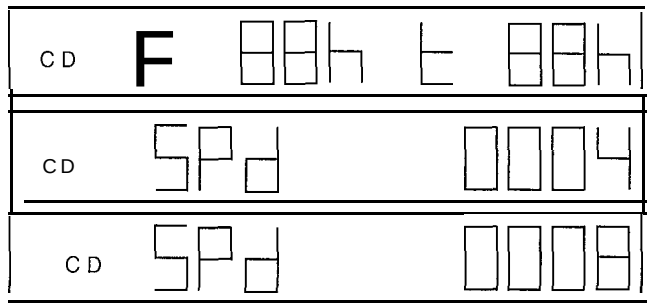
CAV-W x 4

↓ RETURN key

CAV-W x 8

:) SLED moves with the FF/FR key
Returns to the initial state waiting for key input with the STOP key





• Error Code

Durmg the CD servo adjustment

01-01 . FCS ON NG
02-01 Alignment automatic adjustment NG
02-02 Traverse automatic adjustment NG
03-01 TRK ON NG
03-02 SLD ON NG
03-03 FG automatic adjustment NG
03-04 TG automatic adjustment NG

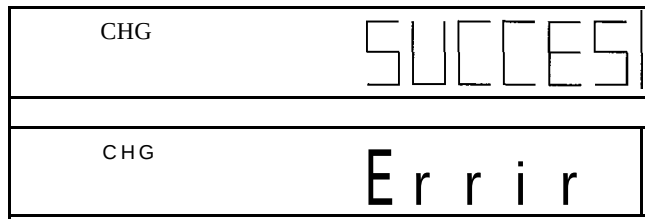
Charging diagnostics

↓

Charging voltage check

↓

Result display



■ Rewriting the Flash ROMs on System Control Microprocessor and A/V control Microprocessor

1 Preparation of the personal computer side
The "RS96" directory must be copied to the "Desktop" directory of the PC that is used for rewriting, as an entire directory

@Note If the "RS96" directory is copied to any locations other than the "Desktop" directory, rewriting will not be performed

2 Preparation of Files
When the "RS96" directory that was copied in step 1, is opened, the follow files appear.

rs96 exe	Serial command software
SortAV	A file that creates the binary file of the A/V control microprocessor
Sort SYS	A file that creates the binary file of the system control microprocessor
* rs96 log	Log file of RS96
* Exe	The directory in which execution file is located

The files marked by the asterisk mark (*) are the hidden files that are not necessary to look at They can be seen only when "all files display" that is an option of the Explorer is set

To rewrite the firmware via serial communication, the "mboot" bmary file must be created from the "***mot" file because the brnary file is used instead of the "***mot" S format file

a How to create the system control binary file
Drug and drop the ***mot file of the version which you want to rewrite, to the SortSYS file
b How to create the A/V control binary file
Drug and drop the ***mot file of the version which you want to rewrite, to the SortAV file

When the step "a" or "b" is perfoimed, the file named "mboot" is created (The A/V and system controls have the same file name) The file name is set by default and the names other than "mboot" cannot be used

3 Preparations at the Board Side

Connect the personal computer ("RS96" is copied from the server) in which the mboot and the RS96 EXE are located in the same directory as prepared in steps 1 and 2, to the circuit board which you want to upgrade the version with a serial interface cable Select the version upgrading mode

Conditions to enter the version upgrading mode

While the OPEN switch HIGH, the OPEN key LOW, and the TEST mode LOW, the DC-IN is applied (or system control reset)
In actual operation, open the shorting taps of the OPEN switch (this switch is normally open), shorts the shorting taps of the TEST mode tap, and while pressing the OPEN key, connect the DC-IN power (or reset the system control microprocessor)
When the machine enters the version upgrading mode, the POWER LED flashes to indicate that it is m the version upgrading mode

4 Upgrading the Version (Rewriting the Firmware)

Move to the directory where RS96 EXE is located, and confirm that the "Size during execution" is in the "Maximized state" setting using the property setting of RS96 EXE Then execute the RS96 EXE
When the prompt "RS232C [9600] N>" appears, press [Enter] The following message appears
[SYS] ER Illegal Command'
The first [SYS] means that the machine is in the rewriting mode of the system control microprocessor
The rewriting mode has two modes
[SYS] Mode The mode to rewrite the system control microprocessor
[AV] Mode The mode to rewrite the A/V control microprocessor

To rewrite the A/V control microprocessor, enter and press as follows
AV [Enter]
to switch the rewriting mode to the [AV] Mode
To rewrite the system control microprocessor, enter and press as follows
SYS [Enter]
to switch the rewriting mode to the [SYS] Mode
When the desired mode is selected (it must be confirmed by the display), enter and press as follows
bootm [Enter]
Then the version upgrading starts and the following display appears

password?
cavcav
bootm start
erase succeeded <———————When this message appears, it means that erasing the flash memory is completed
word-num = XXXXXXXXXXX <-The file size is displayed
I - + - I - + - I - + - I - + - I - + - I - + - I
|: *** ***** : <———————— Indicates how far the rewriting is completed.

When a chain of asterisk marks [illegible] reaches the end, the message "bootm succeeded" is displayed and the prompt RS96 appears, the rewriting is complete

5 Confirming the Rewriting
You can confirm if the system control microprocessor is correctly rewritten after the above described process is completed
The A/V control microprocessor cannot be confirmed of the rewriting
Confirm if the flash ROM is correctly rewritten in step 4

The message "bootm succeeded" will appear at step 4 even though the data becomes erroneous during serial communication so that the wrong data is written mto the flash ROM
In order to verify if the system control microprocessor is correctly rewritten, start up the version upgrading mode again (while pressing the OPEN key, connect the DC-IN plug), and use the "inquiry" command
Enter and press as follows

inquiry [Enter]
When the version number that you have intended to write, appeals as shown below, the rewriting is successfully completed
[SYS] OK Update Ver XXXXX [DATA, 98 XX XX]

[SYS] SYS-con Check Sum error! Do bootm with SYS mode
If the above message appeals, the rewriting has failed Fmd the causes and try again from the beginning

The possible causes of failure are as follows
- The data become erroneous during the serial commumcatlon
- Leads of the flash ROM have the poor (hollow) soldermg
- Leads of the microprocessors have the poor (hollow) soldermg

To confirm the version number and to confirm rewriting, set up the TEST mode, not the version upgradmg mode, and connect the DC IN plug Turn the power on at the test mode, Enter and press as follows

versionav [Enter]
When the version number that you have mtended to write, appears as shown below, the rewriting is successfully completed.
[DVD] OK AV Update Ver OOOOXXXX
When rewriting of the A/V microprocessor has ended in fall, rewriting it again cannot be performed any more
You can exit from RS96 by pressmg ^C (Ctrl + C)
The version number display can be done usmg the self diagnosis function

SECTION 7
ELECTRICAL ADJUSTMENTS

When makmg adjustment, refer to 7-4 Adjustment Related Pal ts Location Diagram.

This section describes the procedures and instructions that are necessary for all adjustments of the electrical circuit of this machine

Instruments required:

1) Color monitor TV
2) Oscilloscope single or dual trace, band width of 100 MHz or higher with delay mode
3) Digital voltmeter
4) Remote commander
5) DVD reference discs
   HLX-501 (J-6090-071-A) (dual layer)
   HLX-503 (J-6090-069-A) (single layer)
6) CD reference disc
   TGRS-2 1

7-1. CHARGE VOLTAGE ADJUSTMENT (MAIN BOARD)

Measuring Instrument	Digital voltmeter
Adjustment element	RV401
Measurement point	Between TP416 (+) (CN 401) and TP419 (–) (CN 402)
Specified Value	8,44 ± **0 01 v**

Adjustment Method:

1) AdJustRV401 for 8 44 ± 0 01V

7-2. VIDEO ADJUSTMENT

1. Composite Video Level Adjustment (MAIN board)

<Purpose>

This adjustment aims at satisfying the NTSC specifications If it is not adjusted correctly, picture will be too bright or too dark

Mode	Test mode 100% color bar output mode
Signal	Color bars
Measurement point	5303 (Terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment element	RV553
Specified Value	1 ± 0 05 vp-p

Check Method :

I) Set up the initial menu of the test mode using the SUB board diagnosis in which the internal color bar appear
2) Adjust RV 553 for 1 ± 0 05 Vp-p

F/g 7-I

2. Y Level Adjustment (MAIN board)

<Purpose>

This item checks that the S video output Y has the correct amphtude If it is not correct, the output Y signal has the incorrect brightness when connected to monitor, etc

Mode	100 % color bar output mode
I Signal	Color bars
Measurement Point	5302 S VIDEO OUT (Terminated in 75Ω)
Measuring Instrument	Oscilloscope
Adjustment element	RV554
Specified Value	± 0 05 vp-p

Check Method :

1) Confirm that the Y level is 1 ± 0.05 Vp-p

F/g 7-2

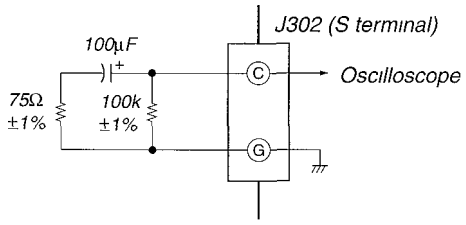
3. Chroma Level Adjustment (MAIN board)

<Purpose>

This item checks if the chroma signal amplitude satisfies the NTSC specifications If it is not correct, color will be too thick or thm

Mode	100 % color bar output mode
Signal	Color bars
Measurement Pomt	J302 S VIDEO OUT
Measuring Instrument	Oscilloscope
Adjustment element	RV552
Specified Value	286 ± 20 mVp-p

Connection:



Checking Method :

1) Confirm that the sub-carrier burst signal has amplitude of 286 ± 20 mVp-p

F/g 7-3

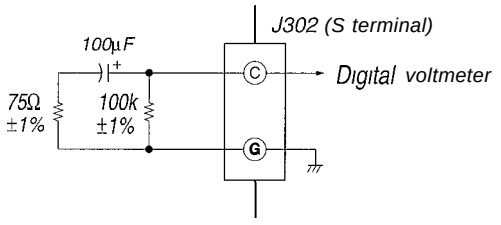
4. S Video Output DC Level Check (MAIN board)

<Purpose>

This item checks if the signals that support the S 1 and S2 compatible TV are correct If they are not correct, the TV will not switch to letter box, etc , automatically.

Mode	100 % color bar output mode
Signal	Color bars
Measurement Point	J302 S VIDEO OUT
Measuring Instrument	Digital voltmeter
Specified Value	S-terminal 5 V 5 0 $^{+0}_{-1}$ V

Connection:



Check Method :

1) Set up the initial menu of the test mode using the SUB board diagnosis in which the color bar output must be set to ON (S 1 ON)
2) Confirm that the 5302 © pm is 5 0 $^{+0}_{-1}$ V

SECTION 8
REPAIR PARTS LIST

8-1. EXPLODED VIEWS

NOTE

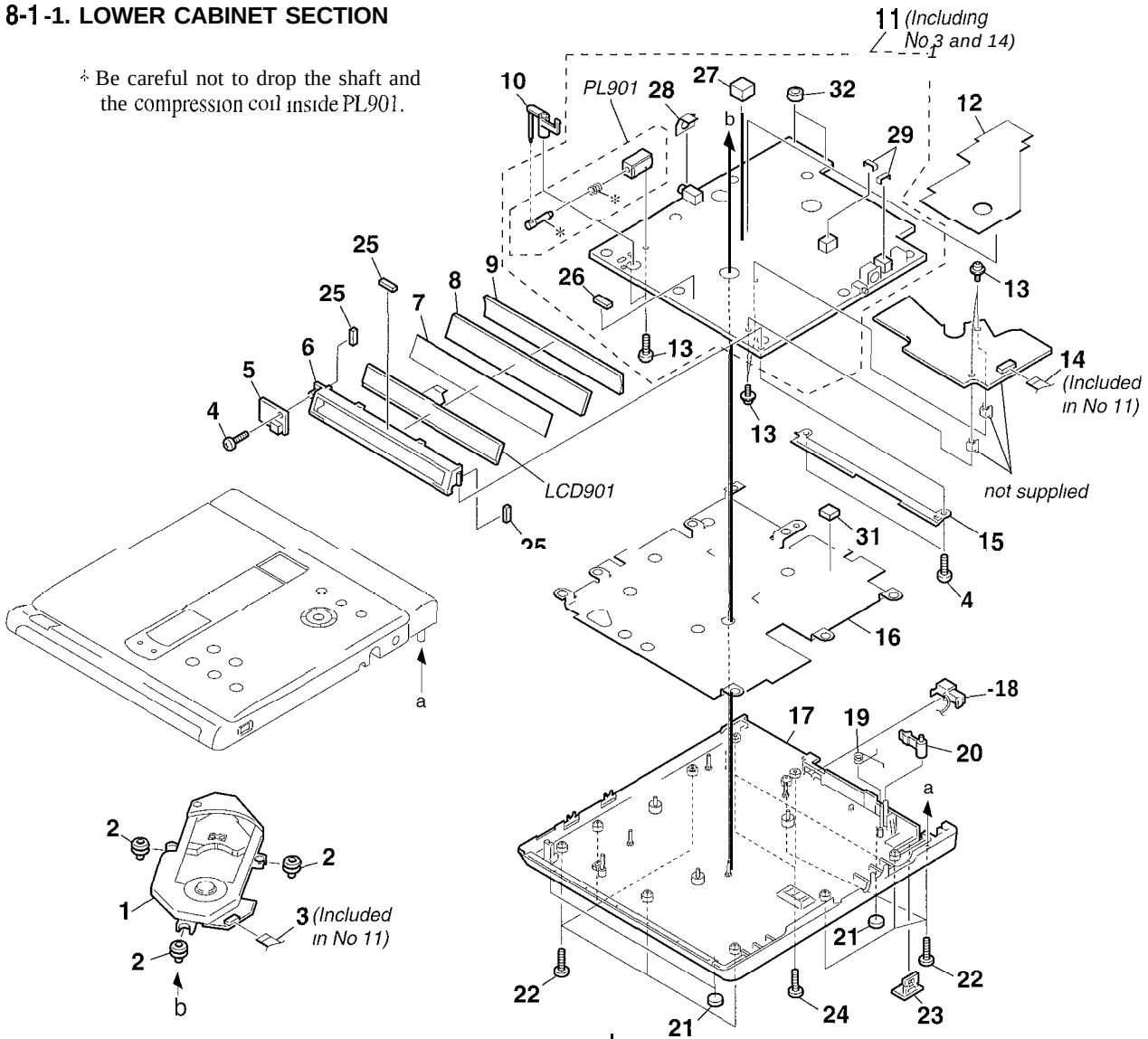
- -XX, -X mean standardized parts, so they may have some differences from the original one
- Item\ marked "*" are not stocked since they are seldom required for routine service Some delay should be anticipated when ordering these items
- The mechanical parts with no reference number in the exploded views are not supplied
- Hardware (#mark) list is given in the last of this parts list

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une marque ⚠ sont critiques pour la sécurité
Ne les remplacer que par une piece portant le numero spécifié

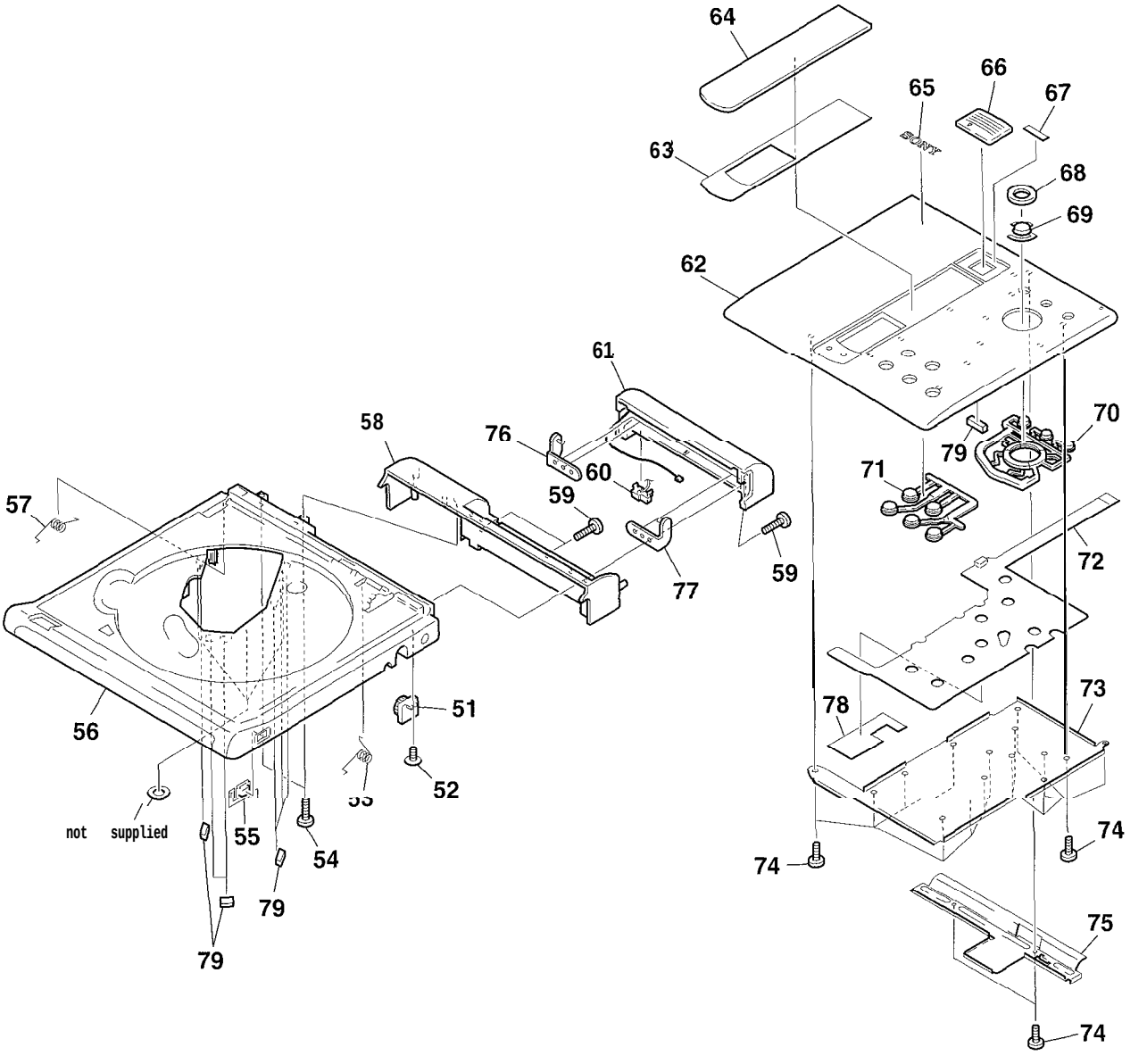
8-1-1. LOWER CABINET SECTION

* Be careful not to drop the shaft and the compression coil inside PL901.



Ref No	Part No	Description	Remarks
1	A-3250-860-A	DVD MECHANISM DVDM-D50	
2	4-969-985-21	INSULATOR	
3	1-783-129-11	CABLE, FLEXIBLE FLAT	
4	3-719-408-01	SCREW (B2), TAPPING, P3	
* 5	l-668-456-11	REMOTEBOARD	
* 6	4-900-666-01	HOLDER, LCD	
7	4-900-687-01	SHEET, DIFFUSION	
8	4-900-688-01	PLATE (LCD), LIGHT GUIDE	
9	4-900-676-01	REFLECTOR (LCD)	
10	4-900-675-01	LEVER, LOCK	
11	A-8044-681-A	MAIN BOARD, COMPLETE	
12	4-900-699-01	SHEET, RF SHIELD	
13	4-900-907-01	SCREW(M2 x 2 5), PWH	
14	l-783-128-11	CABLE, FLEXIBLE FLAT	
15	4-900-661-01	SHEET. REFLECTION	
^ 16	4-900-670-01	HEAT SINK	
17	4-900-663-11	CABINET(LOWER)	
18	1-694-379-11	TERMINAL, BATTERY 3P	
19	4-900-658-01	SPRING (BATT), TORSION	
20	4-900-695-01	ARM, BATT DETECTION	
21	4-962-025-21	FOOT, RUBBER	
22	4-982-491-01	SCREW (2 × 8), TAPPING	
23	4-900-671-01	KNOB,BATT RELEASE	
24	3-336-395-31	SCREW(B2 × 10) (G), TAPPING	
25	4-638-847-01	CUSHION, HOLDER	
26	4-639-038-01	SHEET, CONNECTOR	
27	4-638-862-01	CUSHION (MD)	
28	4-639-039-01	SHEET, ELECTROSTATIC (OP)	
29	4-639-040-01	TAPE (C)	
31	3-916-678-01	CUSHION	
32	4-638-848-01	SPACER SCSI	
LCD901	1-803-010-11	DISPLAY PANEL, LIQUID CRYSTAL	
PL901	l-454-819-11	SOLENOID, PLUNGER	

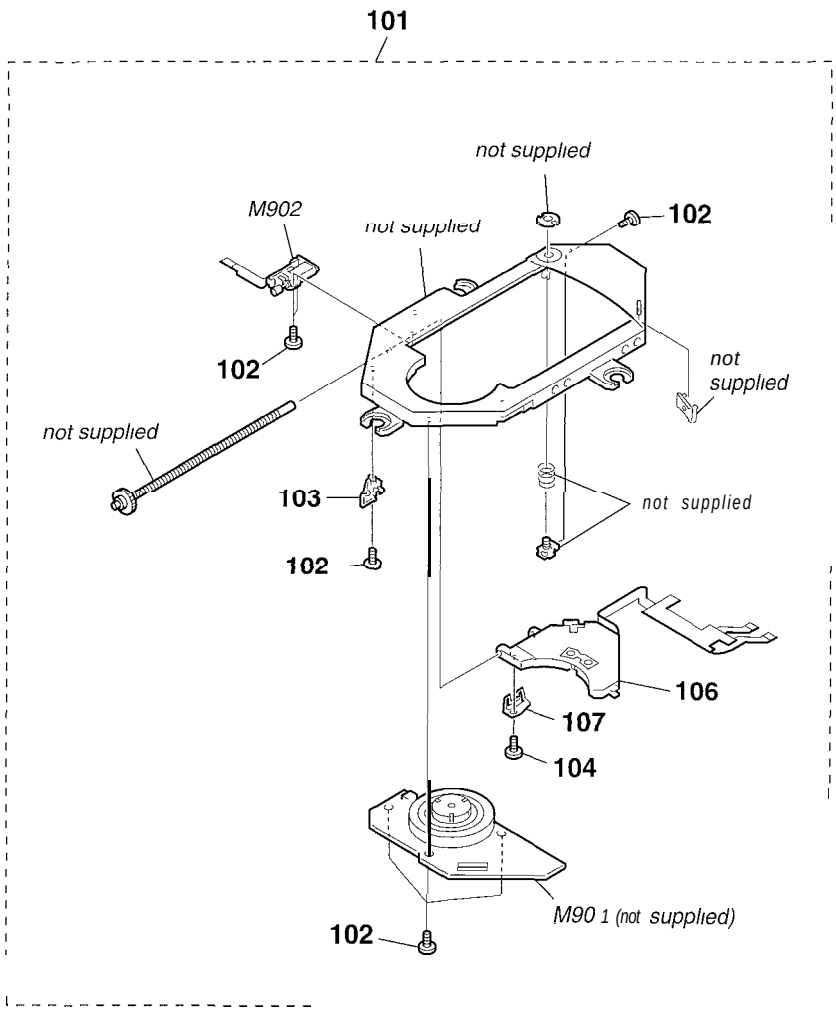
8-1-2. UPPER CABINET SECTION



Ref No	Part No	Description	Remarks
51	3-351-377-01	DAMPER	
52	4-900-698-01	SCREW (+1 4 x 2 5)	
53	4-900-679-01	SPRING (OPEN), TORSION	
54	3-336-395-31	SCREW (B2 × 10) (G), TAPPING	
55	4-900-669-01	KNOB, POWER	
56	X-4621-810-1	CABINET (UPPER) ASSY	
57	4-900-682-01	SPRING (L), TORSION	
58	4-900-665-11	COVER, CABINET (UPPER)	
59	4-982-491-01	SCREW (2 × 8), TAPPING	
60	l-694-378-11	TERMINAL, BATTERY 2P	
61	4-900-668-11	LID, BATTERY CASE	
62	4-900-664-11	LID, UPPER	
63	4-900-697-01	SHEET(UPPER LID), ADHESIVE	
64	4-900-673-11	PLATE(UPPER LID), TRANSPARENT	
65	4-946-905-22	ENBLEM (NO 4 5), SONY	

Ref No	Part No	Description	Remarks
66	4-900-678-01	KNOB, HOLD	
67	4-900-696-01	SEAL(HOLD)	
68	4-900-681-11	ORNAMENT, BUTTON	
69	4-900-659-01	BUTTON (C), CONTROL	
70	4-900-680-01	BUTTON (B), CONTROL	
71	4-900-672-01	BUTTON (A), CONTROL	
72	l-668-453-11	CONTROLFLEXIBLE BOARD	
▷ 73	4-900-674-01	COVER, BUTTON	
74	3-051-112-01	SCREW,2 LOCK(1 4x2 5)	
▽ 75	4-900-660-01	REINFORCEMENT (UPPERLID)	
76	4-900-684-01	PLATE (L), FULCRUM	
77	4-900-685-01	PLATE (R), FULCRUM	
78	4-638-846-01	SHEET, ELECTROSTATIC	
79	4-638-847-01	CUSHION, HOLDER	

8-I-3. DVD MECHANISM SECTION



Ref No	Part No	Description
101	A-3250-860-A	DVD MECHANISM DVDM-D50
102	4-210-600-01	SCREW(B1 7)
103	4-900-701-01	SPRING, SLED
104	2-627-529-01	GRIP (1 7x2 5)

Ref No	Part No	Description	Remarks
A106	8-820-059-01	OPTICAL PICK-UP KHS-190A/J1N	
107	4-900-703-01	RACK	
M902	A-3301-445-A	MOTOR ASSY, SLED	

Note
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety
Replace only with part number specified

Note .
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité
Ne les remplacer que par une pièce portant le numéro spécifié

MAIN

8-2. ELECTRICAL PARTS LIST

NOTE

When indicating parts by reference number, please Include the board name

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifiés par une **marque** ⚠ **sont** critiques **pour la** securite
Ne les remplacer que par une pièce portant le numéro spécifié

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set
- -XX, -X mean standardized parts, so they may have some difference from the original one
- Items marked "*" are not stocked since they are seldom required for routine service Some delay should be anticipated when ordering these items
- CAPACITORS
  uF µF
- RESISTORS
  All resistors are in ohms
  METAL metal-film resistor
  METAL OXIDE Metal Oxide-film resistor
  F nonflammable
- COILS
  uH µH
- SEMICONDUCTORS
  In each case, u µ, for example
  uA µA , uPA , µPA , uPB , µPB , uPC , µPC , uPD , µPD

Fief No	Part No	Description		Remarks
	A-8044-681-A	MAIN BOARD, COMPLETE		
	1-783-128-11	CABLE, FLEXIBLE FLAT		
	l-783-129-11	CABLE, FLEXIBLE FLAT		
	4-638-862-01	CUSHION (MD)		
	4-639-038-01	SHEET, CONNECTOR		
	4-639-039-01	SHEET, ELECTROSTATIC (OP)		
	4-639-040-01	TAPE(C)		
	4-900-907-01	SCREW(M2 x 2 5), PWH		
		<CAPACITOR>		
c001	l-164-505-11	CERAMICCHIP 2 2uF		16V
c002	I-164-505-11	CERAMICCHIP 2 2uF		16V
c003	l-164-156-11	CERAMIC CHIP 0 1uF		25V
c004	l-124-779-00	ELECTCHIP 10uF	20%	16V
c005	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C006	l-124-779-00	ELECTCHIP 10uF	20%	16V
c007	1-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
C008	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C010	l-124-779-00	ELECTCHIP 10uF	20%	16V
c011	l-162-964-11	CERAMICCHIP 0 001uF	10%	5ov
C012	l-124-779-00	ELECTCHIP 10uF	20%	16V
C013	1-162-970-11	CERAMICCHIP OOluF	10%	25V
c014	1-162-967-11	CERAMICCHIP 0 0033uF	10%	5ov
c015	l-162-964-11	CERAMICCHIP 0 001uF	10%	5ov
C016	l-162-970-11	CERAMICCHIP OOluF	10%	25V
c017	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C018	I-135-259-11	TANTAL CHIP 10uF	20%	63V
c019	1-162-966-11	CERAMIC CHIP 0 0022uF	10%	5ov
c020	1-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
C021	1-164-156-11	CERAMIC CHIP 0 1uF		25V
c022	l-135-259-11	TANTAL CHIP 10uF	20%	63V
C023	1-162-964-11	CERAMIC CHIP 0 001uF	10%	5ov
C024	1-164-173-11	CERAMICCHIP 0 0039uF	10%	5ov
C025	l-164-677-11	CERAMICCHIP 0 033uF	10%	16V
C026	1-164-227-11	CERAMICCHIP 0 022uF	10%	25V
C027	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C028	l-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
c029	1-135-259-l	TANTAL CHIP 10uF	20%	63V
c030	1-162-964-1	CERAMIC CHIP 0 001uF	1 0 %	5ov
C031	1-162-964-l	CERAMIC CHIP 0 001uF	10%	5ov
C032	i-164-156-1	CERAMICCHIP 0 1uF		25V
c033	l-164-156-1	CERAMICCHIP 0 1uF		25V
c034	l-164-156-1	CERAMICCHIP 0 1uF		25V
c035	l-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
C036	I-162-968-11	CERAMIC CHIP 0 0047uF	10%	5ov

Ref No	Part No	Description		Remarks
co37	-162-964-11	CERAMIC CHIP 0 00luF	10%	5ov
C038	-164-156-11	CERAMIC CHIP 0 1uF		25V
co39	-164-227-11	CERAMIC CHIP 0 022uF	10%	25V
C040	-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
co41	-164-156-11	CERAMIC CHIP 0 1uF		25V
C042	-162-927-11	CERAMIC CHIP IOOPF	5%	5ov
co43	l-162-970-11	CERAMIC CHIP OOluF	10%	25V
co44	1-162-970-11	CERAMIC CHIP OOluF	10%	25V
co45	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C046	l-164-156-11	CERAMIC CHIP 0 1uF		25V
co47	l-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
C048	1-104-851-11	TANTAL CHIP 10uF	20%	10V
co49	1-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
co50	l-124-778-00	ELECTCHIP 22uF	20%	63V
co51	l-124-778-00	ELECTCHIP 22uF	20%	63V
C052	l-164-156-11	CERAMIC CHIP 0 1uF		25V
co53	I-109-982-11	CERAMIC CHIP 1uF	10%	10V
co54	-162-960-11	CERAMICCHIP 220PF	10%	5ov
co55	-162-927-11	CERAMICCHIP IOOPF	5%	5ov
C056	-164-156-11	CERAMIC CHIP 0 1uF		25V
C058	-162-962-11	CERAMICCHIP 470PF	10%	5ov
co59	-164-156-11	CERAMIC CHIP 0 1uF		25V
C060	-164-156-11	CERAMIC CHIP 0 1uF		25V
C061	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C062	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C063	1-162-970-11	CERAMIC CHIP OOluF	10%	25V
C066	l-162-966-11	CERAMIC CHIP 0 0022uF	10%	5ov
C067	1-135-210-11	TANTALUM CHIP 4 7uF	20%	10V
C068	1-162-960-11	CERAMICCHIP 22OPF	10%	5ov
C069	l-162-960-11	CERAMIC CHIP 220PF	10%	5ov
co71	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C072	1-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
co73	l-164-156-11	CERAMIC CHIP 0 1uF		25V
co74	1-164-156-11	CERAMIC CHIP 0 1uF		25V
co75	I-164-156-11	CERAMIC CHIP 0 1uF		25V
C076	l-164-156-11	CERAMIC CHIP 0 1uF		25V
co77	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C078	I-109-982-11	CERAMIC CHIP 1uF	10%	10V
co79	1-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
C080	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C081	1-109-982-11	CERAMIC CHIP 1uF	10%	10V
C101	l-135-181-21	TANTALUM CHIP 4 7uF	20%	63V
C102	1-162-965-11	CERAMICCHIP 0 0015uF	10%	5ov
C103	l-135-091-00	TANTALUM CHIP 1uF	20%	16V
C104	l-162-953-11	CERAMICCHIP IOOPF	5%	5ov

Ref No	Part No	Description		Remarks
C105	1-164-357-11	CERAMICCHIP IOOOPF 5%		5ov
C106	l-165-128-11	CERAMIC CHIP 0 22uF		16V
C107	1-162-953-11	CERAMICCHIP IOOPF 5%		5ov
c201	l-135-181-21	TANTALUM CHIP 4 7uF	20%	63V
c202	1-162-965-11	CERAMIC CHIP 0 0015uF	10%	5ov
C203	1-135-091-00	TANTALUM CHIP 1uF	20%	16V
C204	1-162-953-11	CERAMICCHIP 100PF 5%		5ov
C205	f-164-357-11	CERAMIC CHIP IOOOPF 5%		5ov
C206	l-165-128-11	CERAMIC CHIP 0 22uF		16V
C207	1-162-953-11	CERAMICCHIP IOOPF 5%		5ov
C304	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C306	l-162-966-11	CERAMIC CHIP 0 0022uF	10%	5ov
C307	1-162-966-11	CERAMIC CHIP 0 0022uF	10%	5ov
C308	I-124-778-00	ELECTCHIP 22uF	20%	63V
c309	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C310	l-164-156-11	CERAMICCHIP 0 1uF		25V
C311	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C312	1-162-962-11	CERAMICCHIP 470PF	10%	5ov
C313	1-162-962-11	CERAMICCHIP 470PF	10%	5ov
c317	l-162-962-11	CERAMICCHIP 470PF	10%	5ov
C318	l-164-156-11	CERAMIC CHIP 0 1uF		25V
c319	l-107-826-11	CERAMICCHIP 0 1uF	10%	16V
C320	l-165-176-11	CERAMIC CHIP 0 047uF	10%	16V
C321	I-162-966-11	CERAMIC CHIP 0 0022uF	10%	5ov
C322	1-164-156-11	CERAMICCHIP 0 1uF		25V
C324	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C325	1-162-917-11	CERAMICCHIP 15PF 5%		5ov
C326	l-162-970-11	CERAMIC CHIP OOluF	10%	25V
C327	l-162-970-11	CERAMIC CHIP OOluF	10%	25V
c329	l-107-823-11	CERAMIC CHIP 0 47uF	10%	16V
C330	1-162-917-11	CERAMIC CHIP 15PF 5%		5ov
c331	l-162-970-11	CERAMICCHIP 0 01uF	10%	25V
C332	I-124-779-00	ELECTCHIP 10uF	20%	16V
c333	I-104-851-11	TANTAL CHIP 10uF	20%	10V
c335	I-164-156-11	CERAMIC CHIP 0 1uF		25V
c337	1-104-851-11	TANTAL CHIP 10uF	20%	10V
C338	l-126-206-11	ELECTCHIP 100uF	20%	63V
c339	1-164-156-11	CERAMICCHIP 0 1uF		25V
C340	l-164-156-11	CERAMIC CHIP 0 1uF		25V
c343	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C346	l-135-210-11	TANTALUM CHIP 4 7uF	20%	10V
c349	1-135-259-11	TANTAL CHIP 10uF	20%	63V
C352	1-162-995-11	CERAMIC CHIP 0 022uF		5ov
c353	l-110-569-11	TANTAL CHIP 47uF	20%	63V
c355	l-164-346-11	CERAMICCHIP 1uF		16V
c357	1-164-346-11	CERAMIC CHIP 1uF		16V
C358	1-164-156-11	CERAMIC CHIP 0 1uF		25V
c359	i-124-779-00	ELECTCHIP 10uF	20%	16V
C360	l-126-395-11	ELECT 22uF	20%	16V
C361	l-164-346-11	CERAMICCHIP 1uF		16V
C362	1-162-966-11	CERAMIC CHIP 0 0022uF	10%	5ov
C363	1-164-346-11	CERAMIC CHIP 1uF		16V
C365	i-107-826-11	CERAMIC CHIP 0 1uF	10%	16V
C366	l-164-505-11	CERAMICCHIP 2 2uF		16V
C368	l-164-357-11	CERAMICCHIP IOOOPF 5%		5ov
C369	l-162-953-11	CERAMICCHIP 100PF 5%		5ov
C371	l-162-953-11	CERAMICCHIP IOOPF 5%		5ov
C372	l-162-953-11	CERAMICCHIP IOOPF 5%		5ov
c373	1-164-245-11	CERAMICCHIP 0 015uF	10%	25V
C376	l-164-245-11	CERAMICCHIP 0 015uF	10%	25V

Ref No	Part No	Description		Remarks
c377	1-164-156-11	CERAMIC CHIP 0 1uF		25V
C378	i-162-970-1	CERAMICCHIP OOluF	10%	25V
c379	1-104-851-i	TANTAL CHIP 10uF	20%	10V
C380	1-113-996-l	TANTAL CHIP 220uF	20%	4v
C381	1-104-847-i	TANTAL CHIP 22uF	20%	4v
C382	l-113-996-1	TANTAL CHIP 220uF	20%	4v
C383	1-104-847-l	TANTAL CHIP 22uF	20%	4v
C384	1-107-823-11	CERAMICCHIP 0 47uF	10%	16V
C385	1-164-505-11	CERAMICCHIP 2 2uF		16V
C386	l-164-505-11	CERAMIC CHIP 2 2uF		16V
C387	1-164-346-11	CERAMIC CHIP 1uF		16V
C389	l-164-357-11	CERAMICCHIP IOOOPF	5%	5ov
C402	I-162-970-11	CERAMIC CHIP OOluF	10%	25V
c403	1-115-156-11	CERAMICCHIP 1uF		10V
C404	l-162-970-11	CERAMIC CHIP 0 01uF	10%	25V
C405	1-164-505-11	CERAMICCHIP 2 2uF		16V
C407	l-124-779-00	ELECTCHIP 10uF	20%	16V
C408	1-128-397-21	ELECTCHIP 100uF	20%	16V
C409	1-162-964-11	CERAMIC CHIP 0 001uF	10%	5ov
C410	l-162-964-11	CERAMIC CHIP 0 001uF	10%	5ov
C411	1-162-962-11	CERAMICCHIP 470PF	10%	5ov
C412	1-119-879-11	ELECT 15uF		16V
C413	l-128-397-21	ELECTCHIP 100uF	20%	16V
C414	1-115-156-11	CERAMICCHIP 1uF		10V
c415	I-162-962-11	CERAMIC CHIP 470PF	10%	5ov
C416	l-162-962-11	CERAMICCHIP 470PF	10%	5ov
C417	l-162-962-11	CERAMICCHIP 470PF	10%	5ov
C418	I-162-964-11	CERAMIC CHIP 0 001uF	10%	5ov
c419	l-162-964-11	CERAMICCHIP 0 001uF	10%	5ov
C420	1-115-156-l	CERAMICCHIP 1uF		10V
C421	1-162-970-i	CERAMIC CHIP 0 01uF	10%	25V
C422	1-115-156-l	CERAMICCHIP 1uF		10V
C423	1-162-970-I	CERAMICCHIP OOluF	10%	25V
C424	1-162-962-I	CERAMICCHIP 470PF	10%	5ov
C425	l-115-156-1	CERAMICCHIP 1uF		10V
C426	l-126-193-11	ELECT 1uF	20%	5ov
C427	1-115-156-11	CERAMIC CHIP 1uF		10V
C428	l-119-879-11	ELECT 15uF		16V
c429	l-164-156-11	CERAMIC CHIP 0 1uF		25V
C430	l-162-962-11	CERAMICCHIP 470PF	10%	5ov
C431	1-164-156-11	CERAMIC CHIP 0 1uF		25V
c433	l-104-914-11	TANTAL CHIP 22uF	20%	16V
C434	l-117-720-11	CERAMICCHIP 47uF		10V
c435	l-162-970-11	CERAMIC CHIP 0 01uF	10%	25V
C436	l-115-581-11	TANTAL CHIP 100uF	20%	16V
c437	1-117-190-11	ELECTCHIP 10uF	20%	10V
C438	l-164-346-11	CERAMICCHIP 1uF		16V
c439	1-128-397-21	ELECTCHIP 100uF	20%	16V
C440	I-162-970-11	CERAMIC CHIP 0 01uF	10%	25V
c441	l-115-581-11	TANTAL CHIP 100uF	20%	16V
C442	l-117-190-11	ELECTCHIP 10uF	20%	10V
c443	l-164-346-11	CERAMIC CHIP 1uF		16V
c444	I-115-581-11	TANTAL CHIP 100uF	20%	16V
c445	1-164-346-11	CERAMICCHIP 1uF		16V
C446	l-115-581-11	TANTAL CHIP 100uF	20%	16V
c447	1-164-346-11	CERAMIC CHIP 1uF		16V
C448	l-162-970-11	CERAMIC CHIP OOluF	10%	25V
c449	l-113-500-11	TANTAL CHIP 100uF	20%	10V
C450	l-117-190-11	ELECTCHIP 10uF	20%	10V
c451	l-164-346-11	CERAMIC CHIP 1uF		16V

MAIN

Ref No	Part No	Description			Remarks
C452	1-113-500-11	TANTAL CHIP	100uF	20%	10V
c453	l-164-346-11	CERAMICCHIP	1uF		16V
c454	1-113-500-11	TANTAL CHIP	100uF	20%	10V
c455	l-164-346-11	CERAMIC CHIP	1uF		16V
C456	1-162-970-11	CERAMIC CHIP	OOluF	10%	25V
c457	l-115-581-11	TANTAL CHIP	100uF	20%	16V
C458	1-117-190-11	ELECTCHIP	10uF	20%	10V
c459	I-162-967-11	CERAMIC CHIP	0 0033uF	10%	5ov
C460	1-164-505-11	CERAMIC CHIP	2 2uF		16V
C461	1-115-156-11	CERAMIC CHIP	1uF		10V
C462	1-115-156-11	CERAMIC CHIP	1uF		1 0V
C463	1-115-156-11	CERAMIC CHIP	1uF		10V
C465	l-109-982-11	CERAMIC CHIP	1uF	10%	10V
C467	l-164-357-11	CERAMIC CHIP	1000PF	5%	5ov
C468	l-164-357-11	CERAMIC CHIP	I000PF	5%	50V
C469	I-164-357-11	CERAMICCHIP	I000PF	5%	5ov
C470	I-164-357-11	CERAMIC CHIP	I000PF	5%	5ov
c471	l-124-779-00	ELECTCHIP	10uF	20%	16V
C491	1-164-156-11	CERAMICCHIP	0 1uF		25V
c492	l-164-156-11	CERAMIC CHIP	0 1uF		25V
c493	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C601	l-165-176-11	CERAMIC CHIP	0 047uF	10%	16V
C602	l-107-823-11	CERAMIC CHIP	0 47uF	10%	16V
C603	I-164-245-11	CERAMIC CHIP	0 015uF	10%	25V
C604	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C605	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C606	1-164-156-11	CERAMICCHIP	0 1uF		25V
C607	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C609	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C610	I-162-960-11	CERAMIC CHIP	220PF	10%	5ov
C611	1-164-156-11	CERAMICCHIP	0 1uF		25V
C612	l-162-927-11	CERAMIC CHIP	100PF	5%	5ov
C614	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C616	l-165-176-11	CERAMIC CHIP	0 047uF	10%	16V
C617	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C618	I-162-970-11	CERAMIC CHIP	OOluF	10%	25V
C619	l-109-982-11	CERAMIC CHIP	1uF	10%	10V
C620	I-164-227-11	CERAMIC CHIP	0 022uF	10%	25V
C621	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C622	1-164-156-11	CERAMICCHIP	0 1uF		25v
C623	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C624	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C625	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C626	1-164-156-11	CERAMICCHIP	0 1uF		25V
C627	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C628	l-135-259-11	TANTAL CHIP	10uF	20%	63V
C630	l-162-970-11	CERAMIC CHIP	0 01uF	10%	25V
C631	l-119-667-11	CERAMICCHIP	22uF		10V
C632	1-162-970-11	CERAMIC CHIP	OOluF	10%	25V
C633	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C635	l-107-823-11	CERAMIC CHIP	0 47uF	10%	16V
C636	l-164-156-11	CERAMICCHIP	0 1uF		25V
C638	I-107-826-11	CERAMIC CHIP	0 1uF	10%	16V
C640	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C641	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C642	1-164-156-11	CERAMICCHIP	0 1uF		25V
C643	l-162-966-11	CERAMIC CHIP	2200P	10%	5ov
C651	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C652	I-162-968-11	CERAMIC CHIP	0 0047uF	10%	5ov
C653	1-1 62-970-l 1	CERAMIC CHIP	OOluF	10%	25V

Ref No	Part No	Description			Remarks
C654	1-115-467-11	CERAMICCHIP	0 22uF	10%	10V
C657	1-1 62-970-l 1	CERAMIC CHIP	OOluF	10%	25V
C658	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C659	1-164-156-11	CERAMICCHIP	0 1uF		25V
C660	1-164-156-11	CERAMICCHIP	0 1uF		25V
C661	1-1 62-962-l 1	CERAMICCHIP	470PF	10%	5ov
C662	l-162-968-11	CERAMICCHIP	0 0047uF	10%	5ov
C663	1-1 62-962-l 1	CERAMICCHIP	470PF	10%	5ov
C664	l-164-489-11	CERAMICCHIP	0 22uF	10%	16V
C665	l-164-156-11	CERAMICCHIP	0 1uF		25V
C666	I-162-962-11	CERAMICCHIP	470PF	**10%**	5ov
C667	l-162-921-11	CERAMICCHIP	33PF	5%	5ov
C668	I-162-962-11	CERAMICCHIP	470PF	10%	5ov
C669	l-162-921-11	CERAMICCHIP	33PF	5%	5ov
C670	l-164-227-11	CERAMICCHIP	0 022uF	10%	25V
C671	I-164-156-11	CERAMIC CHIP	0 1uF		25V
C672	I-162-964-11	CERAMICCHIP	0 001uF	10%	5ov
C673	1-164-156-11	CERAMICCHIP	0 1uF		25V
C674	1-164-156-11	CERAMICCHIP	0 1uF		25V
C675	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C676	I-162-968-11	CERAMICCHIP	0 0047uF	10%	5ov
C677	I-164-156-11	CERAMIC CHIP	0 1uF		25V
C678	1-164-156-11	CERAMICCHIP	0 1uF		25V
C679	I-164-156-11	CERAMIC CHIP	0 1uF		25V
C680	l-135-148-21	TANTAL CHIP	1 5uF	20%	16V
C681	l-135-091 -00	TANTALUM CHIP	1uF	20%	16V
C682	I-164-156-11	CERAMICCHIP	0 1uF		25V
C683	l-107-826-11	CERAMICCHIP	0 1uF	10%	16V
C684	1-107-826-11	CERAMICCHIP	0 1uF	10%	16V
C685	1-115-156-11	CERAMICCHIP	1uF		10V
C686	1-115-156-11	CERAMICCHIP	1uF		10V
C687	1-164-156-11	CERAMICCHIP	0 1uF		25V
C688	l-164-156-11	CERAMICCHIP	0 1uF		25V
C689	l-126-204-11	ELECTCHIP	47uF	20%	16V
C690	l-107-826-11	CERAMIC CHIP	0 1uF	10%	16V
C691	1-135-181-21	TANTALUM CHIP	47uF	20%	63V
C692	1-104-908-11	TANTAL CHIP	47uF	20%	4v
C693	l-104-908-11	TANTAL CHIP	47uF	20%	4v
C694	l-162-964-11	CERAMIC CHIP	0 001uF	10%	5ov
C696	l-107-826-11	CERAMICCHIP	0 1uF	10%	16V
C698	1-107-826-11	CERAMICCHIP	0 1uF	10%	16V
C699	l-164-156-11	CERAMICCHIP	0 1uF		25V
c700	1-135-091-00	TANTALUMCHIP	1uF	20%	16V
C701	I-164-156-11	CERAMICCHIP	0 1uF		25v
C702	l-126-204-11	ELECTCHIP	47uF	20%	16V
C703	I-135-148-21	TANTAL CHIP	1 5uF	20%	16V
C704	l-107-826-11	CERAMIC CHIP	0 1uF	10%	16V
C705	I-164-156-11	CERAMICCHIP	0 1uF		25v
C706	l-164-156-11	CERAMICCHIP	0 1uF		25V
C707	l-162-966-11	CERAMICCHIP	0 0022uF	**10%**	5ov
C708	I-164-357-11	CERAMICCHIP	I000PF	5%	5ov
C732	1-164-156-11	CERAMICCHIP	0 1uF		25V
c733	1-164-156-11	CERAMIC CHIP	0 1uF		25V
c734	l-164-156-11	CERAMIC CHIP	0 1uF		25V
C736	l-164-156-11	CERAMIC CHIP	0 1uF		25V
G737	1-164-156-11	CERAMICCHIP	0 1uF		25V
C738	I-164-156-11	CERAMICCHIP	0 1uF		25V
C760	l-164-156-11	CERAMICCHIP	0 1uF		25V
C761	I-164-379-11	CERAMICCHIP	43PF	5%	5ov
C764	1-117-370-11	CERAMICCHIP	10uF		10V

Ref No	Part No	Description			Remarks
C765	1-117-370-11	CERAMICCHIP	10uF		10V
C801	l-107-826-11	CERAMICCHIP	0 1uF	10%	16V
C802	1-164-156-11	CERAMICCHIP	0 1uF		25V
C803	1-164-156-11	CERAMIC CHIP	0 1uF		25V
C804	l-164-156-11	CERAMICCHIP	0 1uF		25V
C805	I-164-677-11	CERAMICCHIP	0 033uF	10%	16V
C806	1-162-970-11	CERAMICCHIP	0 01uF	10%	25V
C807	l-162-970-11	CERAMIC CHIP	OOluF	10%	25V
C808	1-164-346-11	CERAMICCHIP	1uF		16V
C809	1-162-970-11	CERAMIC CHIP	OOluF	10%	25V
C810	l-164-156-11	CERAMICCHIP	0 1uF		25V
C811	1-164-156-11	CERAMICCHIP	0 1uF		25V
C812	I-164-156-11	CERAMICCHIP	0 1uF		25V
C813	1-164-156-11	CERAMICCHIP	0 1uF		25V
C814	1-164-156-11	CERAMICCHIP	0 1uF		25V
C815	l-164-156-11	CERAMICCHIP	0 1uF		25V
C816	1-162-970-i 1	CERAMIC CHIP	OOluF	10%	25V
C817	1-164-156-11	CERAMICCHIP	0 1uF		25V
C818	l-162-970-11	CERAMICCHIP	OOluF	10%	25V
C819	l-165-176-11	CERAMICCHIP	0 047uF	10%	16V
C820	l-164-156-11	CERAMICCHIP	0 1uF		25V
C821	1-164-156-11	CERAMICCHIP	0 1uF		25V
C823	l-164-156-11	CERAMICCHIP	0 1uF		25V
C824	1-162-921-11	CERAMICCHIP	33PF	5%	5ov
C825	l-162-970-11	CERAMIC CHIP	0 01uF	10%	25V
C829	I-164-156-11	CERAMICCHIP	0 1uF		25V
C830	1-164-156-11	CERAMICCHIP	0 1uF		25V
C831	l-164-217-11	CERAMICCHIP	15OPF	5%	5ov
C833	1-119-667-11	CERAMICCHIP	22uF		10V
C834	l-107-826-11	CERAMICCHIP	0 1uF	10%	16V
C836	1-164-156-11	CERAMICCHIP	0 1uF		25V
C841	l-164-156-11	CERAMICCHIP	0 1uF		25V
C901	l-164-156-11	CERAMICCHIP	0 1uF		25V
c902	1-164-156-11	CERAMICCHIP	0 1uF		25V
c903	I-165-176-11	CERAMICCHIP	0 047uF	10%	16V
c904	1-164-156-11	CERAMIC CHIP	0 1uF		25V
c905	1-164-156-11	CERAMICCHIP	0 1uF		25V
C906	l-104-852-11	TANTAL CHIP	22uF	20%	63V
C909	1-164-156-11	CERAMICCHIP	0 1uF		25V
		<CONNECTOR>			
CN001	l-691-384-11	CONNECTOR, FFC/FPC 20P			
CN002	l-691-380-21	CONNECTOR, FFC/FPC 16P			
CN401	I-750-491-31	PIN, CONNECTOR (PC BOARD) 3P			
CN402	I-750-490-11	PIN, CONNECTOR (PC BOARD) 2P			
CN452	1-784-288-21	CONNECTOR, BOARD TO BOARD 6P			
CN453	1-784-293-21	CONNECTOR, BOARD TO BOARD 40P			
CN455	l-691-386-11	CONNECTOR, FFC/FPC 22P			
CN651	l-770-036-11	CONNECTOR, FPC/FFC 5P			
CN652	1-691-348-11	CONNECTOR, FFC/FPC (ZIF) 10P			
CN801	l-766-210-21	HOUSING, CONNECTOR 8P			
CN802	l-573-290-21	PIN, CONNECTOR (1 5MM) (SMD) 4P			
CN803	I-784-290-21	CONNECTOR, FFC/FPC (ZIF) 33P			

Ref o	Part No	Description	Remarks
		<DIODE>	
0001	B-719-016-74	DIODE 1SS352-TPH3	
0002	B-719-404-49	DIODE MA111-TX	
0101	B-719-065-78	DIODE MAZF12000LS0	
D102	8-719-065-78	DIODE MAZF12000LS0	
0103	B-719-065-78	DIODE MAZF12000LS0	
0104	B-719-065-78	DIODE MAZF12000LS0	
0201	B-719-065-78	DIODE MAZF12000LS0	
0202	B-719-065-78	DIODE MAZF12000LS0	
0203	B-719-065-78	DIODE MAZF12000LS0	
0204	B-719-065-78	DIODE MAZF12000LS0	
0302	B-719-065-78	DIODE MAZF12000LS0	
0303	B-719-065-78	DIODE MAZF12000LS0	
0304	B-719-065-78	DIODE MAZF12000LS0	
0305	B-719-065-78	DIODE MAZF12000LS0	
0308	B-719-065-78	DIODE MAZF12000LS0	
D309	B-719-065-78	DIODE MAZF12000LS0	
D312	B-719-065-78	DIODE MAZF12000LS0	
0313	B-719-065-78	DIODE MAZF12000LS0	
0318	B-719-065-78	DIODE MAZF12000LS0	
0319	B-719-065-78	DIODE MAZF12000LS0	
0320	8-719-065-78	DIODE MAZF12000LS0	
0321	B-719-065-78	DIODE MAZF12000LS0	
0322	B-719-941-86	DIODE DAN202UT106	
0401	B-719-062-22	DIODE SB30-03P-TD	
0402	8-719-017-91	DIODE MA8160-TX	
0403	B-719-017-91	DIODE MA8160-TX	
D404	B-719-062-22	DIODE SB30-03P-TD	
0405	8-719-977-22	DIODE UOZ-TE-17-9 1B	
D406	B-719-404-49	DIODE MA111-TX	
0407	8-719-313-73	DIODE SFPB-52V	
0408	8-719-974-51	DIODE SB20-03P-TD	
0409	8-719-974-51	DIODE SB20-03P-TD	
0410	8-719-938-78	DIODE SB10-05PCP-TD	
0411	8-719-974-51	DIODE SB20-03P-TD	
0412	8-719-974-51	DIODE SB20-03P-TD	
0451	8-719-988-78	DIODE SB007W03Q-TL	
0452	B-719-065-78	DIODE MAZF12000LS0	
0453	B-719-065-78	DIODE MAZF12000LS0	
0454	B-719-065-78	DIODE MAZF12000LS0	
0455	B-719-065-78	DIODE MAZF12000LS0	
D601	B-719-016-74	DIODE 1SS352-TPH3	
D652	B-719-023-69	DIODE SB007T03Q-TL	
0653	B-719-023-69	DIODE SB007T03Q-TL	
0801	B-719-016-74	DIODE 1SS352-TPH3	
0802	B-719-941-09	DIODE DAP202UT106	
0803	B-719-404-49	DIODE MA111-TX	
0804	B-719-053-31	DIODE CL-170YG-CD-T	
0805	B-719-053-31	DIODE CL-170YG-CD-T	
0806	B-719-053-31	DIODE CL-170YG-CD-T	
0807	B-719-053-31	DIODE CL-170YG-CD-T	
0808	B-719-053-31	DIODE CL-170YG-CD-T	
0809	B-719-053-31	DIODE CL-170YG-CD-T	
0810	B-719-053-31	DIODE CL-170YG-CD-T	
0811	B-719-053-31	DIODE CL-170YG-CD-T	
0812	B-719-053-31	DIODE CL-170YG-CD-T	

MAIN

Ref No	Part No	Description		Remarks
D813	8-719-053-31	DIODE CL-170YG-CD-T		
D814	8-719-053-31	DIODE CL-170YG-CD-T		
D815	8-719-053-31	DIODE CL-170YG-CD-T		
D816	8-719-053-31	DIODE CL-170YG-CD-T		
D817	8-719-053-31	DIODE CL-170YG-CD-T		
D818	8-719-053-31	DIODE CL-170YG-CD-T		
0819	8-719-056-66	DIODE 1SS378-TE85L		
D820	8-719-404-49	DIODE MA111-TX		
D821	8-719-404-49	DIODE MA111-TX		
		<FUSE>		
⚠F401	1-533-952-21	FUSE, CHIP		
⚠F402	1-533-962-21	FUSE, CHIP		
		< FERRITE BEAD >		
FB107	1-414-228-11	INDUCTOR CHIP OUH		
FB108	I-414-595-11	INDUCTORCHIP OUH		
FBI09	l-216-864-11	METAL CHIP 0	5%	1/16W
FB207	I-414-228-11	INDUCTORCHIP OUH		
FB208	l-414-595-11	INDUCTORCHIP OUH		
FB209	1-216-864-11	METALCHIP 0	5%	1/16W
FB344	l-216-864-11	METALCHIP 0	5%	1/16W
FB380	1-414-228-11	INDUCTOR CHIP OUH		
FB381	1-216-864-11	METALCHIP 0	5%	1/16W
FB385	1-216-864-11	METAL CHIP 0	5%	1/16W
FB389	1-216-864-11	METALCHIP 0	5%	1/16W
FB401	l-414-581-21	FERRITE OUH		
FB402	I-414-581-21	FERRITE OUH		
FB752	I-414-595-11	INDUCTOR CHIP OUH		
		< IC >		
IC001	8-752-079-86	IC CXA2555Q-T4		
IC002	8-759-701-39	IC NJM2100M (TE2)		
IC003	8-752-080-08	IC CXA2545R		
IC005	8-759-701-39	IC NJM3404AM-TE1		
IC006	8-759-701-39	IC NJM3404AM-TE1		
IC007	8-759-100-93	IC uPC393G2-E2		
IC008	8-759-523-02	IC TC74HC4053AFT (EL		
IC009	8-759-523-02	IC TC74HC4053AFT (EL		
IC302	8-759-540-36	IC SN74LVC157APWR		
IC303	8-759-540-36	IC SN74LVC157APWR		
IC304	8-752-382-94	IC CXD3000R		
IC306	8-759-196-96	IC TC7SH08FU-TE85R		
IC307	8-759-496-47	IC PCM1727E-T2		
IC308	8-759-064-36	IC MB88346BPFV-EF		
IC309	8-759-482-30	IC BA3574BFS-E2		
IC310	8-759-242-64	IC TC4W53F (TE12R)		
IC311	8-759-522-11	IC BA7660FS-E2		
IC401	8-759-060-94	IC MB3785APFV-G-BND-ER		
IC403	8-759-496-51	IC S-8323D50MC		
IC404	8-759-512-69	IC S-81350HG-KD-T1		
IC405	8-759-209-97	IC TC4S81F (TE85R)		
IC406	8-759-209-54	IC TC4S01F (TE85R)		
IC407	8-759-337-40	IC NJM2904V (TE2)		
IC451	8-759-196-96	IC TC7SH08FU-TE85R		
ˇ lC452	8-759-524-25	IC TC7WH241FU (TE12R)		
IC601	8-759-465-16	IC CXD2581R		
IC605	8-759-701-39	IC NJM2100M (TE2)		
IC607	8-759-196-93	IC TC7SH00FU-TE85R		
IC610	8-759-058-62	IC TC7S08FU (TE85R)		
IC651	8-759-523-02	IC TC74HC4053AFT (El		

Ref No	Part No	Description	Remarks
lC652	8-759-523-02	IC TC74HC4053AFT (EL)	
lC653	8-759-701-39	IC NJM2100M (TE2)	
IC654	8-759-523-03	IC TC74HC4066AFT (EL)	
IC655	8-759-701-39	IC NJM2100M (TE2)	
lC656	8-759-701-39	IC NJM2100M (TE2)	
lC657	8-759-058-60	IC TC7SU04FU (TE85R)	
IC658	8-759-161-75	IC NJM2112V (TE2)	
lC659	8-759-490-72	IC MPC17A29VMEL	
IC660	8-759-298-92	IC MPC1719LFU	
IC661	8-759-031-84	IC SC7S04FER	
lC662	8-759-257-96	IC TC7S14FU (TE85R)	
lC663	8-759-257-96	IC TC7S14FU (TE85R)	
IC701	8-759-058-60	IC TC7SU04FU (TE85R)	
IC702	8-752-389-06	IC CXD1864R	
IC704	8-759-523-03	IC TC74HC4066AFT (EL)	
IC705	8-759-361-37	IC uPD4218160G5-60-7JF	
IC705	8-759-538-54	IC KM416C1200CT-6T	
IC801	8-759-560-19	IC HD6432355-PITX5510	
IC802	8-759-701-39	IC NJM3404AM-TE1	
IC803	8-759-523-00	IC TC74HC4051AFT (EL)	
IC804	8-759-523-00	IC TC74HC4051AFT (EL)	
IC805	8-759-523-02	IC TC74HC4053AFT (EL)	
IC806	8-759-465-98	IC BU9728AKV-E2	
IC807	8-759-524-05	IC TC74VHC126FT (EL)	
IC808	8-759-496-54	IC MBM29F200BA-70PFTN-FK	
IC809	8-759-474-95	IC RN5VD42AA-TL	
IC810	8-759-465-17	IC BU6248KV	
IC813	8-759-396-27	IC SN74LV74PW-E20	
IC814	8-759-524-51	IC TC74VHC573FT (EL)	
IC901	8-759-496-44	IC HD6412240FA10	
IC902	8-759-363-26	IC RN5VD28AA-TL	
IC903	8-759-526-03	IC MBM29LV400B-10PFTN	
IC904	8-759-539-50	IC KM68V1000BLT-7LK	
IC905	8-759-539-51	IC BR9010FV-E2	
IC906	8-752-086-84	IC CXA2570N-T4	
IC907	8-759-710-79	IC NJM2107F-TE2	
		<JACK>	
J301	I-565-287-11	JACK(PHONES)	
J302	l-784-292-11	CONNECTOR, MINIATURE DIN 4P (S VIDEO OUT)	
J303	l-784-291-11	JACK (SMALL TYPE) 4P (A/V OUT)	
J401	l-778-380-11	JACK,DC (POLARITY UNIFIED TYPE) (DC IN 10V)	
J451	8-759-266-40	IC GP1F362T (PCM/DOLBY DIGITAL)	
		<COIL>	
L001	l-412-029-11	INDUCTOR CHIP 10uH	
L002	l-412-029-11	INDUCTOR CHIP 10uH	
L003	1-233-736-21	FILTER, EMI	
L004	1-233-736-21	FILTER, EMI	
L005	1-412-029-11	INDUCTORCHIP 10uH	
L006	l-412-029-11	INDUCTOR CHIP 10uH	
L007	l-412-029-11	INDUCTOR CHIP 10uH	
L301	I-412-006-31	INDUCTORCHIP 10uH	
L302	I-412-029-11	INDUCTOR CHIP 10uH	
L303	I-412-029-11	INDUCTOR CHIP 10uH	

Note :	Note
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety Replace only with part number specified	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité Ne les remplacer que par une pièce portant le numéro spécifié

Ref No	Part No	Description		Remarks
L304	1-412-029-11	INDUCTORCHIP	10uH	
L305	1-412-029-11	INDUCTORCHIP	10uH	
L401	1-411-315-21	INDUCTOR	0uH	
L402	1-414-993-21	INDUCTOR	0uH	
L403	l-414-993-21	INDUCTOR	0uH	
L404	l-411-775-11	INDUCTOR	0uH	
L405	1-414-993-21	INDUCTOR	0uH	
L406	l-411-939-11	INDUCTOR	0uH	
L407	l-412-029-11	INDUCTORCHIP	10uH	
L408	l-411-939-11	INDUCTOR	0uH	
L409	1-416-514-11	INDUCTOR	0uH	
L651	I-412-039-51	INDUCTOR CHIP	100uH	
L652	l-412-039-51	INDUCTOR CHIP	100uH	
L653	l-411-737-21	INDUCTOR	0uH	
L654	l-412-039-51	INDUCTOR CHIP	100uH	
L655	I-412-039-51	INDUCTOR CHIP	100uH	
L751	l-412-029-11	INDUCTOR CHIP	10uH	
		<PLUNGER>		
PL901	l-454-819-11	SOLENOID, PLUNGER		
		<TRANSISTOR>		
Q001	8-729-922-10	TRANSISTOR	2SA1577-T106-R	
Q002	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q003	8-729-101-07	TRANSISTOR	2SB798-T1DK	
Q004	8-729-101-07	TRANSISTOR	2SB798-T1DK	
Q005	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q006	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR	
Q101	8-729-420-74	TRANSISTOR	2SD1328-RST-TX	
0201	8-729-420-74	TRANSISTOR	2SD1328-RST-TX	
Q303	8-729-427-74	TRANSISTOR	XP4601-TXE	
Q304	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q305	8-729-903-10	TRANSISTOR	FMW1-T-148	
Q306	8-729-101-07	TRANSISTOR	2SB798-T1DK	
Q307	8-729-930-00	TRANSISTOR	UMD2-TR	
Q308	8-729-904-86	TRANSISTOR	2SB1197K-T-146-Q	
Q309	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
0310	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q403	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q404	8-729-019-91	TRANSISTOR	2SJ238-TE12L	
Q405	8-729-427-74	TRANSISTOR	HN1B04FU-YGR-TE85R	
Q406	8-729-043-75	TRANSISTOR	MMSF3P02HDR2	
Q407	8-729-427-74	TRANSISTOR	HN1B04FU-YGR-TE85R	
Q408	8-729-043-75	TRANSISTOR	MMSF3P02HDR2	
Q409	8-729-427-74	TRANSISTOR	HN1B04FU-YGR-TE85R	
Q410	8-729-043-75	TRANSISTOR	MMSF3P02HDR2	
Q411	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q412	8-729-427-74	TRANSISTOR	HN1B04FU-YGR-TE85R	
Q413	8-729-040-80	TRANSISTOR	2SK2152-TD	
Q414	8-729-216-22	TRANSISTOR	2SA812-T1·M5M6	
Q415	8-729-930-38	TRANSISTOR	UMS2-TR	
Q416	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q417	8-729-028-90	TRANSISTOR	DTA143ZUA-T106	
Q451	8-729-026-53	TRANSISTOR	2SA1576A-T106-QR	
Q452	8-729-930-00	TRANSISTOR	UMD2-TR	
Q651	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q652	8-729-029-06	TRANSISTOR	DTC124EUA-T106	

Ref No	Part No	Description		Remarks
Q653	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q701	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q801	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q802	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q803	8-729-904-86	TRANSISTOR	2SB1197K-T-146-Q	
Q804	8-729-029-09	TRANSISTOR	DTC143EUA-T106	
Q805	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q806	8-729-904-86	TRANSISTOR	2SB1197K-T-146-Q	
Q807	8-729-029-06	TRANSISTOR	DTC124EUA-T106	
Q810	8-729-905-35	TRANSISTOR	2SC4081T106R	
Q811	S-729-905-35	TRANSISTOR	2SC4081T106R	
Q901	8-729-930-00	TRANSISTOR	UMDP-TR	
Q902	8-729-930-00	TRANSISTOR	UMDP-TR	
		<RESISTOR>		
R001	I-216-025-91	RES,CHIP	100 5% 1/10W	
R002	l-216-023-00	METAL CHIP	82 5% 1/10W	
R003	l-216-829-11	METALCHIP	47K 5% 1/16W	
R004	1-216-837-11	METALCHIP	22K 5% 1/16W	
R005	I-216-839-11	METALCHIP	33K 5% 1/16W	
R006	I-216-837-11	METAL CHIP	22K 5% 1/16W	
R007	1-216-855-11	METALCHIP	680K 5% 1/16W	
R008	l-216-837-11	METALCHIP	22K 5% 1/16W	
R009	1-216-849-11	METALCHIP	220K 5% 1/16W	
R010	l-216-821-11	METALCHIP	1K 5% 1/16W	
R011	l-216-833-11	METALCHIP	10K 5% 1/16W	
R012	1-216-839-11	METALCHIP	33K 5% 1/16W	
R013	l-216-837-11	METALCHIP	22K 5% 1/16W	
R014	l-216-839-11	METALCHIP	33K 5% 1/16W	
R015	l-216-008-11	RES,CHIP	20 5% 1/10W	
R016	l-216-008-11	RES,CHIP	20 5% 1/10W	
R017	1-216-843-11	METALCHIP	68K 5% 1/16W	
R018	l-216-008-11	RES,CHIP	20 5% 1/10W	
R019	I-216-845-11	METALCHIP	100K 5% 1/16W	
R020	1-216-008-11	RES,CHIP	20 5% 1/10W	
R021	1-216-843-11	METALCHIP	68K 5% 1/16W	
R022	l-216-829-11	METALCHIP	47K 5% 1/16W	
R023	1-216-833-11	METALCHIP	10K 5% 1/16W	
R024	l-216-837-11	METALCHIP	22K 5% 1/16W	
R025	1-216-833-11	METALCHIP	10K 5% 1/16W	
R026	1-216-833-11	METALCHIP	10K 5% 1/16W	
R027	l-216-829-11	METALCHIP	47K 5% 1/16W	
R028	1-216-864-11	METALCHIP	0 5% 1/16W	
R029	l-216-864-11	METALCHIP	0 5% 1/16W	
R030	l-216-864-11	METALCHIP	0 5% 1/16W	
R031	l-216-864-11	METAL CHIP	0 5% 1/16W	
R032	l-216-809-11	METALCHIP	100 5% 1/16W	
R033	1-216-829-11	METALCHIP	47K 5% 1/16W	
R034	I-216-864-11	METALCHIP	0 5% 1/16W	
R035	1-216-864-11	METALCHIP	0 5% 1/16W	
R036	l-216-833-11	METALCHIP	10K 5% 1/16W	
R037	l-216-833-11	METAL CHIP	10K 5% 1/16W	
R038	1-216-833-11	METALCHIP	10K 5% 1/16W	
R039	l-216-835-11	METALCHIP	15K 5% 1/16W	
R040	l-216-837-11	METALCHIP	22K 5% 1/16W	
R041	l-216-837-11	METALCHIP	22K 5% 1/16W	
R042	l-216-829-11	METALCHIP	47K 5% 1/16W	
R043	I-216-829-11	METALCHIP	47K 5% 1/16W	
R044	1-216-864-11	METALCHIP	0 5% 1/16W	
R045	1-216-833-11	METALCHIP	10K 5% 1/16W	

MAIN

Ref. No	Part No	Description			Remarks
R046	I-216-829-11	METALCHIP	47K	5%	1/16W
R047	l-216-833-11	METALCHIP	10K	5%	1/16W
R048	I-216-834-11	METALCHIP	12K	5%	1/16W
R049	I-216-864-11	METALCHIP	0	5%	1/16W
R050	1-216-864-11	METALCHIP	0	5%	1/16W
R052	l-216-837-11	METALCHIP	22K	5%	1/16W
R053	l-216-844-11	METALCHIP	82K	5%	1/16W
R054	1-216-864-11	METALCHIP	0	5%	1/16W
R055	1-216-833-11	METALCHIP	10K	5%	1/16W
R056	l-218-272-11	RES, CHIP	5 1K	5%	1/16W
R057	l-216-833-11	METALCHIP	10K	5%	1/16W
R060	l-216-864-11	METALCHIP	0	5%	1/16W
R061	1-216-839-11	METALCHIP	33K	5%	1/16W
R062	1-216-821-11	METALCHIP	1K	5%	1/16W
R063	l-216-864-11	METALCHIP	0	5%	1/16W
R066	l-216-864-11	METALCHIP	0	5%	1/16W
R068	1-216-833-11	METALCHIP	10K	5%	1/16W
R069	l-216-849-11	METALCHIP	220K	5%	1/16W
R070	l-216-833-11	METALCHIP	10K	5%	1/16W
R071	1-216-854-11	METALCHIP	560K	5%	1/16W
R072	l-216-864-11	METALCHIP	0	5%	1/16W
R074	1-216-821-11	METALCHIP	1K	5%	1/16W
R076	l-216-841-11	METALCHIP	47K	5%	1/16W
R077	l-216-845-11	METALCHIP	100K	5%	1/16W
R078	l-216-821-11	METALCHIP	1K	5%	1/16W
R079	l-216-821-11	METALCHIP	1K	5%	1/16W
R080	l-216-845-11	METALCHIP	100K	5%	1/16W
R081	1-216-845-11	METALCHIP	100K	5%	1/16W
R082	l-216-829-11	METALCHIP	47K	5%	1/16W
R083	l-216-833-11	METALCHIP	10K	5%	1/16W
R084	l-216-864-11	METALCHIP	0	5%	1/16W
R085	1-216-864-11	METALCHIP	0	5%	1/16W
R086	l-216-864-11	METALCHIP	0	5%	1/16W
R088	l-216-846-11	METALCHIP	120K	5%	1/16W
R089	l-216-846-11	METALCHIP	120K	5%	1/16W
R090	l-216-851-1	METALCHIP	330K	5%	1/16W
R091	1-216-864-1	METALCHIP	0	5%	1/16W
R093	1-216-857-1	METALCHIP	1M	5%	1/16W
R094	1-216-864-l	METALCHIP	0	5%	1/16W
R098	1-216-837-1	METALCHIP	22K	5%	1/16W
R101	l-216-845-11	METALCHIP	100K	5%	1/16W
R102	1-216-817-11	METALCHIP	470	5%	1/16W
R103	l-216-817-11	METALCHIP	470	5%	1/16W
R104	l-216-826-11	METALCHIP	27K	5%	1/16W
R105	1-216-839-11	METALCHIP	33K	5%	1/16W
R106	l-216-789-11	METALCHIP	22	5%	1/16W
R201	l-216-845-11	METALCHIP	100K	5%	1/16W
R202	1-216-817-11	METALCHIP	470	5%	1/16W
R203	l-216-817-11	METALCHIP	470	5%	1/16W
R204	l-216-826-11	METALCHIP	27K	5%	1/16W
R205	l-216-839-11	METALCHIP	33K	5%	1/16W
R206	1-216-789-11	METALCHIP	22	5%	1/16W
R301	l-216-864-11	METALCHIP	0	5%	1/16W
R302	l-216-864-11	METALCHIP	0	5%	1/16W
R303	1-216-864-11	METALCHIP	0	5%	1/16W
R304	l-216-833-11	METALCHIP	10K	5%	1/16W
R306	1-216-845-11	METALCHIP	100K	5%	1/16W
R307	l-216-845-11	METALCHIP	100K	5%	1/16W
R308	l-216-837-11	METALCHIP	22K	5%	1/16W
R315	l-216-821-11	METALCHIP	1K	5%	1/16W

Ref No	Part No	Description			Remarks
R316	1-216-821-1	METALCHIP	1K	5%	1/16W
R317	1-216-821-1	METALCHIP	1K	5%	1/16W
R318	l-216-821-11	METALCHIP	1K	5%	1/16W
R319	l-216-821-11	METALCHIP	1K	5%	1/16W
R320	l-216-821-11	METALCHIP	1K	5%	1/16W
R321	1-216-845-11	METALCHIP	100K	5%	1/16W
R322	1-216-834-11	METALCHIP	12K	5%	1/16W
R323	1-216-864-11	METALCHIP	0	5%	1/16W
R324	l-216-834-11	METALCHIP	12K	5%	1/16W
R326	1-216-839-11	METALCHIP	33K	5%	1/16W
R327	1-216-834-11	METALCHIP	12K	5%	1/16W
R331	1-216-847-11	METALCHIP	150K	5%	1/16W
R333	1-216-852-11	METALCHIP	390K	5%	1/16W
R334	i-216-797-11	METALCHIP	10	5%	1/16W
R335	1-216-827-11	METALCHIP	33K	5%	1/16W
R336	1-216-833-11	METALCHIP	10K	5%	1/16W
R337	1-216-827-11	METALCHIP	33K	5%	1/16W
R338	l-216-864-11	METALCHIP	0	5%	1/16W
R339	l-216-845-11	METALCHIP	100K	5%	1/16W
R340	1-216-821-11	METALCHIP	1K	5%	1/16W
R342	l-216-845-11	METALCHIP	100K	5%	1/16W
R343	l-216-853-11	METALCHIP	470K	5%	1/16W
R345	l-216-864-11	METALCHIP	0	5%	1/16W
R346	1-216-833-11	METALCHIP	10K	5%	1/16W
R347	l-218-287-11	RES,CHIP	200	5%	1/16W
R350	1-216-857-11	METALCHIP	1M	5%	1/16W
R351	1-216-833-11	METALCHIP	10K	5%	1/16W
R352	1-216-864-11	METALCHIP	0	5%	1/16W
R353	1-216-864-11	METAL CHIP	0	5%	1/16W
R354	l-216-864-11	METALCHIP	0	5%	1/16W
R356	l-216-841-11	METALCHIP	47K	5%	1/16W
R357	1-216-833-11	METALCHIP	47K	5%	1/16W
R358	l-216-844-11	METALCHIP	82K	5%	1/16W
R361	1-216-864-11	METALCHIP	0	5%	1/16W
R362	l-216-864-11	METALCHIP	0	5%	1/16W
R364	l-216-864-11	METALCHIP	0	5%	1/16W
R368	l-216-864-11	METALCHIP	0	5%	1/16W
R371	1-216-829-11	METALCHIP	47K	5%	1/16W
R372	l-216-821-11	METALCHIP	1K	5%	1/16W
R373	1-218-862-11	RES,CHIP	43K	050%	1/16W
R374	l-218-878-11	RES, CHIP	20K	0 50%	1/16W
R376	1-216-833-11	METALCHIP	10K	5%	1/16W
R378	l-216-833-11	METALCHIP	10K	5%	1/16W
R379	l-208-755-11	RES, CHIP	75	0 50%	1/10W
R382	1-216-864-11	METALCHIP	0	5%	1/16W
R384	1-216-864-11	METALCHIP	0	5%	1/16W
R387	1-216-864-11	METALCHIP	0	5%	1/16W
R390	l-216-864-11	METALCHIP	0	5%	1/16W
R391	l-216-864-11	METALCHIP	0	5%	1/16W
R394	1-216-864-11	METALCHIP	0	5%	1/16W
R396	1-216-864-11	METALCHIP	0	5%	1/16W
R397	l-216-829-11	METALCHIP	47K	5%	1/16W
R398	I-208-755-11	RES, CHIP	75	050%	1/10W
R399	I-208-755-11	RES, CHIP	75	050%	1/10W
R401	l-218-903-11	RES, CHIP	220K	050%	1/16W
R402	l-218-891-11	RES, CHIP	68K	050%	1/16W
R403	I-216-821-11	METALCHIP	1K	5%	1/16W
R404	l-216-825-11	METALCHIP	22K	5%	1/16W
R405	l-218-863-11	RES,CHIP	47K	0 50%	1/16W
R406	1-216-849-11	METALCHIP	220K	5%	1/16W

Ref No	Part No	Description			Remarks
R407	1-218-863-11	RES, CHIP	47K	050%	1/16W
R408	l-216-835-11	METALCHIP	15K	5%	1/16W
R409	1-216-821-11	METALCHIP	1K	5%	1/16W
R410	1-216-825-11	METALCHIP	22K	5%	1/16W
R411	1-218-863-11	RES, CHIP	47K	0 50%	1/16W
R412	1-216-849-11	METALCHIP	220K	5%	1/16W
R413	l-218-863-11	RES, CHIP	47K	050%	1/16W
R414	1-216-839-11	METALCHIP	33K	5%	1/16W
R415	l-216-023-00	METALCHIP	82	5%	1/10W
R416	l-216-023-00	METALCHIP	82	5%	1/10W
R417	l-216-023-00	METALCHIP	82	5%	1/10W
R418	I-216-023-00	METAL CHIP	82	5%	1/10W
R419	I-216-833-11	METALCHIP	10K	5%	1/16W
R420	1-216-849-11	METALCHIP	220K	5%	1/16W
R421	l-216-825-11	METALCHIP	22K	5%	1/16W
R422	1-216-821-11	METALCHIP	1K	5%	1/16W
R423	1-218-863-11	RES, CHIP	47K	0 50%	1/16W
R424	I-218-863-11	RES, CHIP	47K	050%	1/16W
R425	1-216-833-11	METALCHIP	10K	5%	1/16W
R426	l-216-849-11	METAL CHIP	220K	5%	1/16W
R427	l-216-825-11	METALCHIP	22K	5%	1/16W
R428	l-216-821-11	METALCHIP	1K	5%	1/16W
R429	l-218-863-11	RES, CHIP	47K	050%	1/16W
R430	I-218-863-11	RES, CHIP	47K	050%	1/16W
R431	1-216-833-11	METALCHIP	10K	5%	1/16W
R432	l-216-833-11	METALCHIP	10K	5%	1/16W
R433	I-216-864-11	METALCHIP	0	5%	1/16W
R434	1-216-825-11	METAL CHIP	22K	5%	1/16W
R435	I-216-833-11	METALCHIP	10K	5%	1/16W
R436	1-216-821-11	METALCHIP	1K	5%	1/16W
R437	l-216-825-11	METALCHIP	22K	5%	1/16W
R438	1-216-805-11	METALCHIP	47	5%	1/16W
R439	I-216-864-11	METALCHIP	0	5%	1/16W
R440	1-216-833-11	METALCHIP	10K	5%	1/16W
R441	l-218-858-11	RES, CHIP	3K	0 50%	1/16W
R442	I-218-847-11	RES, CHIP	1K	050%	1/16W
R443	1-216-825-11	METALCHIP	22K	5%	1/16W
R444	I-216-805-11	METALCHIP	47	5%	1/16W
R445	t-216-864-11	METALCHIP	0	5%	1/16W
R446	1-216-833-11	METALCHIP	10K	5%	1/16W
R447	I-218-865-11	RES, CHIP	56K	050%	1/16W
R448	1-218-854-11	RES, CHIP	2K	0 50%	1/16W
R449	1-216-825-11	METALCHIP	22K	5%	1/16W
R450	l-216-805-11	METALCHIP	47	5%	1/16W
R451	1-216-864-11	METAL CHIP	0	5%	1/16W
R452	1-216-833-11	METALCHIP	10K	5%	1/16W
R453	1-218-863-11	RES, CHIP	47K	050%	1/16W
R454	1-218-858-11	RES, CHIP	3K	050%	1/16W
R455	1-216-825-11	METALCHIP	22K	5%	1/16W
R456	1-216-809-11	METALCHIP	100	5%	1/16W
R457	I-216-797-11	METAL CHIP	10	5%	1/16W
R458	1-216-841-11	METALCHIP	47K	5%	1/16W
R459	l-216-825-11	METALCHIP	22K	5%	1/16W
R460	1-216-833-11	METALCHIP	10K	5%	1/16W
R461	1-218-871-11	RES, CHIP	10K	050%	1/16W
R462	I-218-853-11	RES, CHIP	1 8K	0 50%	1/16W
R463	l-216-828-11	METALCHIP	39K	5%	1/16W
R464	l-218-603-91	METALCHIP	12	5%	1W
R465	I-218-603-91	METAL CHIP	12	5%	1W
R466	1-218-842-11	RES. CHIP	620	0 50%	1/16W

Ref o	Part No	Description			Remarks
R467	l-216-833-11	METALCHIP	10K	5%	1/16W
R468	l-218-895-11	RES,CHIP	100K	0 50%	1/16W
R469	l-218-895-11	RES, CHIP	100K	0 50%	1/16W
R470	I-218-895-11	RES, CHIP	100K	0 50%	1/16W
R471	1-218-895-11	RES, CHIP	100K	0 50%	1/16W
R472	1-218-915-11	RES, CHIP	680K	0 50%	1/16W
R473	1-218-903-11	RES, CHIP	220K	0 50%	1/16W
R474	l-216-821-11	METALCHIP	1K	5%	1/16W
R475	1-216-821-11	METALCHIP	1K	5%	1/16W
R476	1-216-821-11	METALCHIP	1K	5%	1/16W
R481	l-218-915-11	RES, CHIP	680K	0 50%	1/16W
R482	1-218-903-11	RES, CHIP	220K	0 50%	1/16W
R483	l-216-821-11	METALCHIP	1K	5%	1/16W
R488	1-216-833-11	METALCHIP	10K	5%	1/16W
R489	l-216-864-11	METALCHIP	0	5%	1/16W
R490	l-216-821-11	METALCHIP	1K	5%	1/16W
R491	1-216-829-11	METALCHIP	47K	5%	1/16W
R492	l-216-829-11	METALCHIP	47K	5%	1/16W
R493	I-216-837-11	METALCHIP	22K	5%	1/16W
R494	1-216-837-11	METALCHIP	22K	5%	1/16W
R496	1-216-836-11	METALCHIP	18K	5%	1/16W
R601	1-216-864-11	METALCHIP	0	5%	1/16W
R602	1-216-864-11	METALCHIP	0	5%	1/16W
R603	l-216-837-11	METALCHIP	22K	5%	1/16W
R604	I-216-821-11	METALCHIP	1K	5%	1/16W
R605	l-216-832-11	METALCHIP	82K	5%	1/16W
R606	1-216-857-11	METALCHIP	1M	5%	1/16W
R607	1-216-843-11	METALCHIP	68K	5%	1/16W
R608	l-216-864-11	METALCHIP	0	5%	1/16W
R609	1-216-864-11	METALCHIP	0	5%	1/16W
R610	l-216-847-11	METALCHIP	150K	5%	1/16W
R611	1-216-864-11	METALCHIP	0	5%	1/16W
R617	l-216-833-11	METALCHIP	10K	5%	1/16W
R618	1-216-833-11	METALCHIP	10K	5%	1/16W
R619	1-218-871-11	RES, CHIP	10K	0 50%	1/16W
R620	1-218-843-11	RES, CHIP	680	0 50%	1/16W
R621	I-216-843-11	METALCHIP	68K	5%	1/16W
R623	1-216-823-11	METALCHIP	1 5K	5%	1/16W
R624	1-216-821-11	METALCHIP	1K	5%	1/16W
R625	1-216-813-11	METALCHIP	220	5%	1/16W
R626	1-216-832-11	METALCHIP	82K	5%	1/16W
R627	l-216-816-11	METALCHIP	390	5%	1/16W
R628	1-216-831-11	METALCHIP	68K	5%	1/16W
R629	l-216-829-11	METALCHIP	47K	5%	1/16W
R630	I-216-853-11	METALCHIP	470K	5%	1/16W
R631	l-216-864-11	METALCHIP	0	5%	1/16W
R632	1-216-821-11	METALCHIP	1K	5%	1/16W
R633	l-216-821-11	METALCHIP	1K	5%	1/16W
R634	l-216-833-11	METALCHIP	10K	5%	1/16W
R635	l-216-833-11	METALCHIP	10K	5%	1/16W
R636	I-216-864-11	METALCHIP	0	5%	1/16W
R638	1-216-833-11	METALCHIP	10K	5%	1/16W
R639	1-216-821-11	METALCHIP	1K	5%	1/16W
R640	I-216-845-11	METALCHIP	100K	5%	1/16W
R641	1-216-839-11	METALCHIP	33K	5%	1/16W
R642	1-216-839-i 1	METALCHIP	33K	5%	1/16W
R643	1-216-864-11	METALCHIP	0	5%	1/16W
R644	l-216-833-11	METALCHIP	10K	5%	1/16W
R645	l-216-833-11	METALCHIP	10K	5%	1/16W
R646	l-216-821-11	METALCHIP	1K	5%	1/16W

MAIN

Ref No	Part No	Description			Remarks
R647	I-216-833-11	METALCHIP	10K	5%	1/16W
R648	1-216-845-11	METALCHIP	100K	5%	1/16W
R649	1-216-833-11	METALCHIP	10K	5%	1/16W
R650	I-216-864-11	METALCHIP	0	5%	1/16W
R651	1-216-841-11	METALCHIP	47K	5%	1/16W
R653	I-216-841-11	METALCHIP	47K	5%	1/16W
R656	1-216-833-11	METALCHIP	10K	5%	1/16W
R657	I-216-839-11	METALCHIP	33K	5%	1/16W
R658	l-216-849-11	METALCHIP	220K	5%	1/16W
R659	1-216-849-11	METALCHIP	220K	5%	1/16W
R660	l-216-837-11	METALCHIP	22K	5%	1/16W
R661	I-216-837-11	METALCHIP	22K	5%	1/16W
R662	I-216-833-11	METALCHIP	10K	5%	1/16W
R663	1-216-864-11	METALCHIP	0	5%	1/16W
R665	I-216-852-11	METALCHIP	390K	5%	1/16W
R666	I-216-847-11	METALCHIP	150K	5%	1/16W
R667	I-216-864-11	METALCHIP	0	5%	1/16W
R668	1-216-864-11	METALCHIP	0	5%	1/16W
R669	l-216-833-11	METALCHIP	10K	5%	1/16W
R670	l-216-864-11	METALCHIP	0	5%	1/16W
R671	1-216-833-11	METALCHIP	10K	5%	1/16W
R672	I-216-833-11	METALCHIP	10K	5%	1/16W
R673	l-216-833-11	METALCHIP	10K	5%	1/16W
R674	I-216-833-11	METALCHIP	10K	5%	1/16W
R675	I-216-833-11	METALCHIP	10K	5%	1/16W
R676	I-216-829-11	METALCHIP	47K	5%	1/16W
R677	1-216-841-11	METALCHIP	47K	5%	1/16W
R678	I-216-833-11	METALCHIP	10K	5%	1/16W
R679	I-216-833-11	METALCHIP	10K	5%	1/16W
R680	I-216-834-11	METALCHIP	12K	5%	1/16W
R681	I-216-833-11	METALCHIP	10K	5%	1/16W
R682	l-216-835-11	METALCHIP	15K	5%	1/16W
R683	l-216-829-11	METALCHIP	47K	5%	1/16W
R684	l-216-833-11	METALCHIP	10K	5%	1/16W
R685	I-216-864-11	METALCHIP	0	5%	1/16W
R686	1-216-833-11	METALCHIP	10K	5%	1/16W
R687	1-216-833-11	METALCHIP	10K	5%	1/16W
R688	I-216-827-11	METALCHIP	33K	5%	1/16W
R689	1-216-864-11	METALCHIP	0	5%	1/16W
R690	I-216-816-11	METALCHIP	390	5%	1/16W
R692	I-216-864-11	METALCHIP	0	5%	1/16W
R693	I-216-833-11	METALCHIP	10K	5%	1/16W
R695	l-216-864-11	METALCHIP	0	5%	1/16W
R698	I-216-833-11	METALCHIP	10K	5%	1/16W
R700	I-216-833-11	METALCHIP	10K	5%	1/16W
R702	l-216-833-11	METALCHIP	10K	5%	1/16W
R704	l-216-833-11	METALCHIP	10K	5%	1/16W
R706	I-216-857-11	METALCHIP	1M	5%	1/16W
R707	1-216-821-11	METALCHIP	1K	5%	1/16W
R711	I-218-272-11	RES,CHIP	5 1K	5%	1/16W
R712	1-218-272-11	RES, CHIP	5 1K	5%	1/16W
R713	1-218-272-11	RES, CHIP	51K	5%	1/16W
R714	I-218-272-11	RES, CHIP	5 1K	5%	1/16W
R715	I-216-833-11	METALCHIP	10K	5%	1/16W
R716	l-216-833-11	METALCHIP	10K	5%	1/16W
R717	1-216-833-11	METALCHIP	10K	5%	1/16W
R718	I-216-833-11	METALCHIP	10K	5%	1/16W
R719	I-216-833-11	METALCHIP	10K	5%	1/16W
R724	I-216-833-11	METALCHIP	10K	5%	1/16W
R725	l-216-797-11	METALCHIP	IO	5%	1/16W

Ref No	Part No	Description			Remarks
R726	l-216-823-11	METALCHIP	1.5K	5%	1/16W
R727	I-216-827-11	METALCHIP	33K	5%	1/16W
R728	l-216-864-11	METALCHIP	0	5%	1/16W
R729	l-216-797-11	METALCHIP	IO	5%	1/16W
R731	l-216-827-11	METALCHIP	33K	5%	1/16W
R732	1-216-864-11	METALCHIP	0	5%	1/16W
R734	I-216-864-11	METALCHIP	0	5%	1/16W
R735	I-216-864-11	METALCHIP	0	5%	1/16W
R742	l-216-833-11	METAL CHIP	10K	5%	1/16W
R753	1-216-864-11	METALCHIP	0	5%	1/16W
R754	I-216-857-11	METALCHIP	1M	5%	1/16W
R755	I-216-864-11	METALCHIP	0	5%	1/16W
R756	1-216-864-11	METALCHIP	0	5%	1/16W
R757	I-216-823-11	METALCHIP	15K	5%	1/16W
R758	I-216-823-11	METALCHIP	1 5K	5%	1/16W
R759	l-216-845-11	METALCHIP	100K	5%	1/16W
R760	1-216-845-11	METALCHIP	100K	5%	1/16W
R761	l-216-833-11	METALCHIP	10K	5%	1/16W
R770	l-216-829-11	METALCHIP	4 7K	5%	1/16W
R771	l-216-803-11	METALCHIP	33	5%	1/16W
R772	1-216-803-11	METALCHIP	33	5%	1/16W
R773	I-216-833-11	METALCHIP	10K	5%	1/16W
R782	I-216-833-11	METALCHIP	10K	5%	1/16W
R783	l-216-864-11	METALCHIP	0	5%	1/16W
R795	1-216-821-11	METALCHIP	1K	5%	1/16W
R796	I-218-882-11	RES, CHIP	30K	0 50%	1/16W
R801	l-216-833-11	METALCHIP	10K	5%	1/16W
R802	I-216-847-11	METALCHIP	150K	5%	1/16W
R803	1-216-831-11	METALCHIP	68K	5%	1/16W
R804	I-216-864-11	METALCHIP	0	5%	1/16W
R805	I-216-864-11	METAL CHIP	0	5%	1/16W
R806	1-216-833-11	METAL CHIP	10K	5%	1/16W
R807	1-216-864-11	METALCHIP	0	5%	1/16W
R808	1-216-864-11	METALCHIP	0	5%	1/16W
R809	1-216-864-11	METALCHIP	0	5%	1/16W
R810	I-216-825-11	METALCHIP	22K	5%	1/16W
R812	I-216-864-11	METALCHIP	0	5%	1/16W
R813	I-216-864-11	METALCHIP	0	5%	1/16W
R814	I-216-864-11	METALCHIP	0	5%	1/16W
R815	I-216-857-11	METALCHIP	1M	5%	1/16W
R816	I-216-821-11	METALCHIP	1K	5%	1/16W
R817	l-216-857-11	METALCHIP	1M	5%	1/16W
R818	1-216-833-11	METALCHIP	10K	5%	1/16W
R819	I-216-857-11	METALCHIP	1M	5%	1/16W
R820	1-216-845-11	METALCHIP	100K	5%	1/16W
R821	1-216-857-11	METALCHIP	1M	5%	1/16W
R822	1-216-821-11	METALCHIP	1K	5%	1/16W
R823	l-216-857-11	METALCHIP	1M	5%	1/16W
R824	I-216-864-11	METALCHIP	0	5%	1/16W
R825	l-216-864-11	METALCHIP	0	5%	1/16W
R826	I-216-837-11	METALCHIP	22K	5%	1/16W
R827	I-216-845-11	METAL CHIP	100K	5%	1/16W
R828	1-216-864-11	METALCHIP	0	5%	1/16W
R829	I-216-853-11	METALCHIP	470K	5%	1/16W
R830	I-216-837-11	METALCHIP	22K	5%	1/16W
R831	I-216-837-11	METALCHIP	22K	5%	1/16W
R832	I-216-835-11	METALCHIP	15K	5%	1/16W
R833	1-216-833-11	METALCHIP	10K	5%	1/16W
R834	l-216-864-11	METALCHIP	0	5%	1/16W
R835	l-216-864-11	METALCHIP	0	5%	1/16W

Ref No	Part No	Description			Remarks
R836	l-216-845-11	METALCHIP	100K	5%	1/16W
R837	1-216-857-11	METALCHIP	1M	5%	1/16W
R838	1-216-857-11	METALCHIP	1M	5%	1/16W
R839	l-216-833-11	METALCHIP	10K	5%	1/16W
R840	1-216-821-11	METALCHIP	1K	5%	1/16W
R841	l-216-864-11	METALCHIP	0	5%	1/16W
R842	l-216-833-11	METALCHIP	10K	5%	1/16W
R843	1-216-857-11	METALCHIP	1M	5%	1/16W
R844	1-216-864-11	METALCHIP	0	5%	1/16W
R846	l-216-841-11	METALCHIP	47K	5%	1/16W
R847	l-216-864-11	METALCHIP	0	5%	1/16W
R848	1-216-864-11	METALCHIP	0	5%	1/16W
R849	1-216-821-11	METALCHIP	1K	5%	1/16W
R850	l-216-821-11	METALCHIP	1K	5%	1/16W
R851	i-216-833-11	METAL CHIP	10K	5%	1/16W
R852	1-216-833-11	METALCHIP	10K	5%	1/16W
R854	1-216-833-11	METALCHIP	10K	5%	1/16W
R855	1-216-821-11	METALCHIP	1K	5%	1/16W
R856	l-216-833-11	METAL CHIP	10K	5%	1/16W
R857	l-216-864-11	METALCHIP	0	5%	1/16W
R858	1-216-814-11	METALCHIP	270	5%	1/16W
R859	l-216-814-11	METALCHIP	270	5%	1/16W
R860	l-216-864-11	METAL CHIP	0	5%	1/16W
R861	1-216-857-11	METALCHIP	1M	5%	1/16W
R862	I-216-857-11	METALCHIP	1M	5%	1/16W
R863	1-216-814-11	METALCHIP	270	5%	1/16W
R864	I-216-814-11	METALCHIP	270	5%	1/16W
R865	1-216-814-11	METALCHIP	270	5%	1/16W
R866	l-216-864-11	METALCHIP	0	5%	1/16W
R867	l-216-814-11	METALCHIP	270	5%	1/16W
R868	1-216-814-11	METALCHIP	270	5%	1/16W
R869	1-216-814-11	METALCHIP	270	5%	1/16W
R870	1-216-814-11	METALCHIP	270	5%	1/16W
R871	l-216-814-11	METALCHIP	270	5%	1/16W
R873	l-216-857-11	METALCHIP	1M	5%	1/16W
R874	i-216-809-11	METALCHIP	100	5%	1/16W
R875	l-216-814-11	METALCHIP	270	5%	1/16W
R878	1-216-811-11	METALCHIP	150	5%	1/16W
R879	l-216-814-11	METALCHIP	270	5%	1/16W
R880	l-216-864-11	METALCHIP	0	5%	1/16W
R881	l-216-814-11	METALCHIP	270	5%	1/16W
R882	l-216-825-11	METALCHIP	22K	5%	1/16W
R883	l-216-814-11	METALCHIP	270	5%	1/16W
R884	l-216-814-11	METALCHIP	270	5%	1/16W
R885	1-216-825-11	METALCHIP	22K	5%	1/16W
R886	l-216-814-11	METALCHIP	270	5%	1/16W
R887	1-216-815-11	METALCHIP	330	5%	1/16W
R888	I-216-864-11	METALCHIP	0	5%	1/16W
R889	1-216-821-11	METALCHIP	1K	5%	1/16W
R892	l-216-803-11	METALCHIP	33	5%	1/16W
R893	l-216-803-11	METALCHIP	33	5%	1/16W
R894	l-216-809-11	METALCHIP	100	5%	1/16W
R895	1-216-814-11	METALCHIP	270	5%	1/16W
R896	I-216-864-11	METALCHIP	0	5%	1/16W
R897	l-216-833-11	METALCHIP	10K	5%	1/16W
R905	l-216-864-11	METALCHIP	0	5%	1/16W
R907	l-216-864-11	METALCHIP	0	5%	1/16W
R910	1-216-864-11	METALCHIP	0	5%	1/16W
R912	1-216-825-11	METALCHIP	22K	5%	1/16W
R913	1-216-833-11	METALCHIP	10K	5%	1/16W

Ref No	Part No	Description			Remarks
R914	l-216-821-11	METALCHIP	1K	5%	1/16W
R915	l-216-833-11	METALCHIP	10K	5%	1/16W
R916	1-216-864-11	METALCHIP	0	5%	1/16W
R917	1-216-857-11	METALCHIP	1M	5%	1/16W
R918	l-216-833-11	METALCHIP	10K	5%	1/16W
R919	I-216-833-11	METALCHIP	10K	5%	1/16W
R920	I-216-833-11	METALCHIP	10K	5%	1/16W
R921	l-216-833-11	METALCHIP	10K	5%	1/16W
R922	l-216-833-11	METALCHIP	10K	5%	1/16W
R923	I-216-864-11	METALCHIP	0	5%	1/16W
R925	1-216-833-11	METALCHIP	10K	5%	1/16W
R926	l-216-836-11	METALCHIP	18K	5%	1/16W
R927	1-216-843-11	METALCHIP	68K	5%	1/16W
R928	1-216-853-11	METALCHIP	470K	5%	1/16W
R929	l-216-845-11	METALCHIP	100K	5%	1/16W
R930	1-216-833-11	METALCHIP	10K	5%	1/16W
R931	l-216-825-11	METALCHIP	22K	5%	1/16W
R934	l-216-864-11	METALCHIP	0	5%	1/16W
R937	l-216-837-11	METALCHIP	22K	5%	1/16W
R938	l-218-882-11	RES,CHIP	30K	0.50%	1/16W
R940	l-216-864-11	METALCHIP	0	5%	1/16W
R951	1-216-845-11	METALCHIP	100K	5%	1/16W
R952	l-216-845-11	METALCHIP	100K	5%	1/16W
R954	l-216-833-11	METALCHIP	10K	5%	1/16W
R955	l-216-864-11	METALCHIP	0	5%	1/16W
R957	l-216-833-11	METALCHIP	10K	5%	1/16W
R958	I-216-829-11	METALCHIP	47K	5%	1/16W
R961	I-218-272-11	RES,CHIP	51K	5%	1/16W
R962	1-218-873-11	RES,CHIP	12K	0.50%	1/16W
R963	l-216-833-11	METALCHIP	10K	5%	1/16W
R964	l-216-833-11	METALCHIP	10K	5%	1/16W
R965	1-216-845-11	METALCHIP	100K	5%	1/16W
R966	l-216-821-11	METALCHIP	1K	5%	1/16W
R967	l-218-870-11	RES,CHIP	9.1K	0.50%	1/16W
R968	l-218-864-11	RES,CHIP	51K	0.50%	1/16W
R969	l-216-833-11	METALCHIP	10K	5%	1/16W
R970	l-216-845-11	METALCHIP	100K	5%	1/16W
R971	l-216-845-11	METALCHIP	100K	5%	1/16W
R972	1-216-821-11	METALCHIP	1K	5%	1/16W
R973	l-216-833-11	METALCHIP	10K	5%	1/16W
R974	l-216-864-11	METALCHIP	0	5%	1/16W
R989	l-216-864-11	METALCHIP	0	5%	1/16W
R991	l-216-864-11	METALCHIP	0	5%	1/16W
R992	l-216-864-11	METALCHIP	0	5%	1/16W
R993	l-216-833-11	METALCHIP	10K	5%	1/16W
R994	l-216-857-11	METALCHIP	1M	5%	1/16W
R996	1-216-864-11	METALCHIP	0	5%	1/16W

< VARIABLE RESISTOR >

RV301	1-225-315-11	RES, VAR, CARBON	10K/10K(VOL)
RV401	l-241-390-21	RES, ADJ, METAL GLAZE 220	

<SWITCH>

S401	l-771-297-11	SWITCH, PUSH (BATTERYDET)
S801	1-572-499-11	SWITCH, TACTIL (POWER)
S802	l-771-294-21	SWITCH, PUSH (DOOR OPEN/CLOSE)

MAIN | **REMOTE** | **SUB**

Ref. No.	Part No.	Description			Remarks
		<VIBRATOR>			
x301	1-767-784-21	VIBRATOR, CRYSTAL 27MHz			
x701	l-767-863-21	VIBRATOR, CERAMIC 40MHz			
X801	1-767-621-11	VIBRATOR, CERAMIC			
X901	l-767-690-11	VIBRATOR, CERAMIC 10MHz			
*	1-668-456-11	**REMOTE BOARD**			
		**********			
		<CONNECTOR>			
CN451	1-784-289-21	**CONNECTOR, BOARDTO** BOARD 6P			
		< IC >			
IC451	8-749-012-17	**IC RS-140-T**			
		<SWITCH>			
s451	1-771-248-11	SWITCH, TACTILE **(OPEN)**			
		SUB BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C501	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C502	l-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
c504	1-164-156-11	**CERAMICCHIP**	0.1uF		25V
C505	1-164-156-11	**CERAMICCHIP**	0.1uF		25V
C506	l-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C508	1-164-156-11	**CERAMICCHIP**	0.1uF		25V
C509	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C510	I-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
c511	1-162-974-11	**CERAMIC CHIP**	0.01uF		50V
C512	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C515	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C516	i-164-156-11	**CERAMIC CHIP**	0.1uF		25v
c517	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C518	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c519	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C520	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C521	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C522	1-162-962-11	**CERAMIC CHIP**	470PF	10%	50v
C523	1-164-357-11	**CERAMIC CHIP**	1000PF	5%	50V
C524	1-164-357-11	**CERAMIC CHIP**	IOOOPF	5%	50v
C525	l-164-357-11	**CERAMICCHIP**	IOOOPF	5%	50v
C526	1-164-357-11	**CERAMICCHIP**	1000PF	5%	50V
C527	l-164-357-11	**CERAMIC CHIP**	IOOOPF	5%	50v
C528	1-164-357-11	**CERAMIC CHIP**	1000PF	5%	50V
c529	l-164-357-11	**CERAMICCHIP**	IOOOPF	5%	50v
C530	1-164-357-11	**CERAMICCHIP**	IOOOPF	5%	50V
c531	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C532	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c533	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c534	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c535	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C536	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c537	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C538	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C551	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V

Ref. No.	Part No.	Description			Remarks
C552	1-113-642-11	**TANTAL.ChlP**	47uF	20%	10V
c553	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c554	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C555	1-164-357-11	**CERAMICCHIP**	1000PF	5%	50v
C556	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c557	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
C558	l-162-918-11	**CERAMICCHIP**	18PF	5%	50V
c559	1-162-918-i	**CERAMICCHIP**	18PF	5%	50v
C560	1-162-918-1	**CERAMICCHIP**	18PF	5%	50v
C561	1-164-217-1	**CERAMICCHIP**	150PF	5%	50V
C562	1-164-217-1	**CERAMICCHIP**	150PF	5%	50v
C563	1-164-217-1	**CERAMICCHIP**	150PF	5%	50V
C564	1-164-156-1	**CERAMICCHIP**	0.1uF		25V
C565	1-164-156-11	**CERAMICCHIP**	0.1uF		25V
C566	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
G567	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c571	1-164-357-11	**CERAMIC CHIP**	IOOOPF	5%	50V
C572	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c573	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c575	l-162-921-11	**CERAMICCHIP**	33PF	5%	50v
C576	1-164-156-11	**CERAMIC CHIP**	0.1uF		25V
c577	I-135-259-11	**TANTAL. CHIP**	10uF	20%	6.3V
C578	1-162-923-11	**CERAMIC CHIP**	47PF	5%	50v
		<CONNECTOR>			
CN454	1-691-479-21	CONNECTOR, BOARD TO BOARD 40P			
CN456	I-691-360-11	**CONNECTOR,** FFC/FPC (ZIF) 22P			
		<DIODE>			
D551	8-719-404-49	**DIODE** MA111-TX			
		< IC >			
IC501	8-759-534-21	**IC** MSM54V32256SL-50TS-K			
IC503	8-759-498-43	IC MSM54V16258ASL-45TSK			
IC504	8-759-534-21	**IC** MSM54V32256SL-50TS-K			
IC508	8-759-271-88	IC TC7SHU04FU-TE85R			
IC509	8-759-496-43	**IC ZIVA-DS-LTB3**			
IC551	8-759-496-53	**IC** TMS320AV410			
lC552	8-759-534-30	**IC** uPD6466GS-511-E2			
IC553	8-759-462-09	**IC** TLV431AIDBV			
IC555	8-759-396-27	**IC** SN74LV74PW-E20			
		< COIL >			
L501	1-412-622-51	**INDUCTOR**	10uH		
L502	1-412-622-51	**INDUCTOR**	10uH		
L503	l-412-004-31	**INDUCTOR CHIP**	6.8uH		
L504	I-410-997-31	**INDUCTOR CHIP**	2.2uH		
L505	I-412-029-11	**INDUCTOR CHIP**	10uH		
L551	l-410-993-11	**INDUCTOR CHIP**	1uH		
L552	l-410-993-11	**INDUCTOR CHIP**	1uH		
L553	l-410-993-11	**INDUCTORCHIP**	1uH		
L555	I-412-029-11	**INDUCTOR CHIP**	10uH		
L556	l-412-029-11	**INDUCTORCHIP**	10uH		
		<RESISTOR>			
R501	1-216-821-11	**METALCHIP**	1K	5%	1/16W
R502	1-216-864-11	**METALCHIP**	0	5%	1/16W
R503	1-216-864-11	**METALCHIP**	0	5%	1/16W
R504	1-216-857-11	**METALCHIP**	1M	5%	1/16W

Ref.	Part No.	Description			Remarks
R506	1-216-803-11	METALCHIP	33	5%	1/16W
R507	1-216-803-11	METALCHIP	33	5%	1/16W
R508	1-216-803-11	METALCHIP	33	5%	1/16W
R509	1-216-803-11	METALCHIP	33	5%	1/16W
R510	1-216-803-11	METAL CHIP	33	5%	1/16W
R511	1-216-803-11	METAL CHIP	33	5%	1/16W
R512	1-216-803-11	METALCHIP	33	5%	1/16W
R513	1-216-803-11	METALCHIP	33	5%	1/16W
R514	1-216-803-11	METALCHIP	33	5%	1/16W
R515	1-216-803-11	METALCHIP	33	5%	1/16W
R516	1-216-803-11	METALCHIP	33	5%	1/16W
R517	1-216-803-11	METALCHIP	33	5%	1/16W
R518	1-216-803-11	METALCHIP	33	5%	1/16W
R519	1-216-803-11	METALCHIP	33	5%	1/16W
R520	1-216-803-11	METALCHIP	33	5%	1/16W
R522	1-216-803-11	METAL CHIP	33	5%	1/16W
R541	1-216-864-11	METALCHIP	0	5%	1/16W
R542	1-216-864-11	METALCHIP	0	5%	1/16W
R543	1-216-864-11	METALCHIP	0	5%	1/16W
R553	1-218-851-11	RES,CHIP	1.5K	0.50%	1/16W
R554	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
R556	1-216-864-11	METALCHIP	0	5%	1/16W
R557	1-216-813-11	METAL CHIP	220	5%	1/16W
R558	1-216-813-11	METAL CHIP	220	5%	1/16W
R559	1-216-813-11	METAL CHIP	220	5%	1/16W
R560	1-216-864-11	METALCHIP	0	5%	1/16W
R561	1-218-851-11	RES,CHIP	1.5K	0.50%	1/16W
R564	1-216-864-11	METALCHIP	0	5%	1/16W
R565	1-216-833-11	METALCHIP	10K	5%	1/16W
R566	1-216-825-11	METALCHIP	2.2K	5%	1/16W
R567	1-216-813-11	METAL CHIP	220	5%	1/16W
R569	1-216-864-11	METALCHIP	0	5%	1/16W
R570	1-216-821-11	METALCHIP	1K	5%	1/16W

Ref.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV552	1-241-391-11	RES, ADJ, METALGLAZE	
RV553	1-241-391-11	RES, ADJ, METAL GLAZE 470	
RV554	1-241-391-11	RES, ADJ, METAL GLAZE 470	
		<VIBRATOR>	
X501	1-767-846-21	VIBRATOR, CERAMIC 30MHz	
		MISCELLANEOUS	
		**********	
18	1-694-379-11	TERMINAL, BATTERY 3P	
60	1-694-378-11	TERMINAL, BATTERY 2P	
⚠106	8-820-059-01	OPTICAL PICK-UP KHS-190A/J1N	
LCD901	1-803-010-11	DISPLAY PANEL, LIQUID CRYSTAL	
M903	A-3301-445-A	MOTOR ASSY, SLED	
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-475-555-41	ADAPTOR, AC	
	1-475-561-21	REMOTECOMMANDER	
	1-783-028-11	CORD, CONNECTION (A/V CONNECTION) 1.5m	
	3-864-642-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-864-661-01	INSTRUCTION (OPEN)	
*	4-639-282-01	INDIVIDUAL CARTON	
	9-980-978-11	BATTERYCOVER	

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifies par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.